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AN EXTRA-ABDOMINAL MULTILOCULAR OVARIAN CYST *

THOMAS S. CULLEN, M.D.
BALTIMORE

Several months ago, Dr. Frank R. Smith asked me to see a woman who had a kidney-shaped tumor slightly below and to the right of the umbilicus. The patient had noticed a small lump in this situation several years before, which for a long while had remained quiescent but during the last year had gradually increased in size. At operation it was found to be a partly solid, partly cystic tumor of the ovary lying external to the abdominal muscles, the tumor and its surrounding sac being covered over with a small amount of adipose tissue and the skin. The pedicle of the tumor passed through a hernial ring to the outer side of the right rectus and obliquely across the lower abdominal cavity to what corresponded to the normal insertion of the right utero-ovarian ligament.

I have been unable to find any reference to a similar case in the literature.

History.—Mrs. M. W., aged 56, was a short, well developed woman, and, apart from a tumor mass in the lower abdomen, was in excellent health. She had had eleven children. Her periods had ceased at 50. She had felt some pain in the right ovarian region for fifteen years, and for about ten years she had noticed a little tumor situated in the right lateral abdominal wall slightly above a line drawn between the umbilicus and the anterior superior spine. This, from her description, seemed to have been about the size of an ovary. During the last ten months this small lump had increased in size until it formed a lobulated mass, elongate in form, about 10 by 8 cm. It seemed to be but a short distance beneath the skin and could be lifted up to some extent in the hand, but its absolute relationship could not be determined on account of the presence of a considerable amount of adipose tissue.

Operation.—Nov. 1, 1910, on making a pelvic examination, under anesthesia I found that the uterus was normal and that there was no thickening laterally. Not being sure of the exact condition, I made a median incision. The uterus was normal, the left tube and ovary presented the usual appearance. The right tube showed no change, but the right utero-ovarian ligament was markedly drawn out into a band about 1 cm. broad. This led to a hernial opening with smooth margins in the right lateral abdominal wall below and to the right of the umbilicus, but at least 12 cm. from the inguinal region (Fig. 1). After obtaining good exposure I found that this flattened band of the utero-ovarian ligament passed directly into a hernial opening about 2.5 cm. in diameter, and into this opening a finger could readily be introduced. The intra-abdominal portion of the pedicle was clamped off and sutured. An incision was then made over the prominent part of the abdominal tumor, which proved to be extra-abdominal. The more prominent part of this tumor lay directly beneath the skin in the adipose tissue, and was very easily freed by blunt dissection to the point where the hernial ring entered the abdomen. I then cut the peritoneum around the hernial ring and delivered the tumor, with its peritoneal covering intact. The space where the tumor had existed having been obliterated and the inner incision having been sutured, the outer wound was also closed. The ovarian tumor was multilocular.

There had evidently been a hernial protrusion through the right lateral abdominal wall, into which the ovary had dropped and remained for several years. During the last year it had increased in size and given rise to a multilocular ovarian cyst. Naturally with the increase in size, the escape of the ovary from the sac was impossible.

Macroscopic Examination of Hardened Specimen (Path. No. 15,723).—The hernial opening was about 2.5 cm. in diameter. Its margins consisted of peritoneum, outside of which was a zone of adipose tissue. The tumor itself was kidney-shaped (Fig. 2) 12 cm. long, 7 cm. broad, and 6 cm. in thickness. It was covered everywhere with peritoneum, which could be readily separated from it. Here and there attached to the outer surface of the peritoneum were tags of adipose tissue. The tumor itself was in large measure solid, resembling a fibroma. It presented a lobulated appearance. Here and there between nodules it showed cystic spaces, oblong, irregular, or round, varying from 2 mm. to 2 cm. in diameter. The majority of these were transparent and contained clear fluid. Some of them were slightly blood-tinged. So much could be made out through a window, which was cut in the peritoneum. On peeping in through the hernial ring, were seen cysts varying from 2.5 cm. to 3 cm. in diameter and apparently filled with clear fluid. After the drawing had been made the tumor was cut in two. The appearance on section is well shown in the drawing in the right upper corner of Figure 2.

Histologic Examination.—The solid portion of the tumor consisted in large part of fibrous tissue containing triangular or spindle-shaped nuclei. In some places the nuclei were abundant, in others scanty in number. The tissue showed a considerable degree of hyaline degeneration. At one or two points characteristic ovarian stroma was still in evidence. No Graafian follicles could be found, but after an examination of numerous sections a typical corpus fibrosum was noted. In some sections a few bundles of non-striped muscle were visible. The stroma had a meager blood-supply except in a few areas, where there were groups of rather large veins.

Scattered sparingly through the stroma were small circular or irregular glands occurring singly or in groups of two or three. They were found to be lined with cylindrical epithelium and were similar to those so frequently noted in the hilum of the ovary. Some of the very small cystic spaces, noted macroscopically, were lined with cylindrical ciliated epithelium and had an underlying stroma that stained rather deeply and that consisted of cells with oval vesicular nuclei. This stroma stood out in sharp contrast to the surrounding fibrous tissue. Such cysts frequently contained a little fairly fresh blood. These cysts reminded one very much of the cystic spaces so frequently noted in an adenomyoma, but I believe that they represented only the earlier stages of the larger cysts.

The large cysts were lined with one layer of epithelium which might be cylindrical, cuboidal or almost flat. Projecting into some of the cysts were papillary folds. These occasionally occurred as delicate, irregular, finger-like projections, but in

* From the Gynecological Department of the Johns Hopkins Hospital.

the main as blunt, single or branching outgrowths. All of them were covered over with one layer of epithelium. The stroma of the papillary masses had in many places undergone almost complete hyaline degeneration, and in a few liquefaction of this hyaline material had taken place. Even in some of the larger cysts a moderate amount of fresh blood was present. The stroma cells beneath the cyst epithelium had in some places become swollen and spherical and were filled with yellow or brown pigment indicating the absorption of blood at some previous time.

On the surface of the tumor were a moderate number of vascular adhesions, and on the under and protected side of these the peritoneal cells had become cuboidal as is common on the under side of tubal or ovarian adhesions.

From the above description it will be seen that the dense matrix of the tumor consisted essentially of fibrous tissue and that scattered throughout this were multiple cysts, in large measure similar in character, some of which had small papillary masses projecting into them. Had the tumor developed in the abdominal cavity, I believe that in all probability it would have been a multilocular cystoma, but as it lay between the

Fig. 1.—OVARIAN PEDICLE PASSING FROM UTERUS, OUT THROUGH A HERNIAL RING IN THE ABDOMINAL WALL. A schematic representation of the pelvic structures as found at operation. The uterus and left appendages were normal. The right tube was unaltered, but passing from the uterus where the right ovary should have been was a band 1 cm. broad. This ran upward and outward and passed out through an abdominal ring to the outer side of the right rectus. At the ring a finger could be passed completely around this pedicle. It was nowhere adherent to the ring. A glance at the umbilicus will indicate the exact location of the ring. On looking through the ring a small portion of the glistening tumor could be readily seen. The dotted line indicates the relative size of the tumor.

abdominal muscles and skin a rapid cystic growth was much more difficult, and the fibrous tissue was thus allowed to keep pace with the cystic formation.

There was no sign of malignancy.

THE PRESENCE OF OVARIES IN HERNIAL SACS

The occurrence of ovaries and ovarian tumors in hernial sacs is of particular interest in this connection. I shall, therefore, briefly discuss the more important contributions made in this field.

The ovary has a rather free excursus, and it is not to be wondered at that where an inguinal or femoral hernia exists the ovary and often the tube form part of the contents of the hernial sac. Puech[1] in 1879 contributed a most interesting article on hernia of the ovary. In addition to his own cases, he refers to those of Pott, Lassus, Deneux, Guersant, Parker, Bruny, Warren, Méadows, Cusco, Coote, Englisch, Weinlechner, MacCluer, Sonnenburg, Werth and Rheinstaedter. In brief his paper says that the ovary may pass out at any of the natural abdominal openings, and that, when it does so, it is most frequently by way of the femoral or inguinal ring. The inguinal hernia, which is the more frequent, may be congenital or accidental. The congenital hernia is produced by a condition analogous to the descent of the testicle. In eighty-eight cases of hernia containing the ovary, fifty-four were incontestably congenital, seventeen doubtful and seventeen accidental. The congenital hernias were unilateral in twenty-seven cases, bilateral in twenty-seven cases. In the unilateral cases the left side was more frequently involved. In cases of double hernia the presence of the ovaries in the hernial sac was sometimes associated with defective development of the generative organs. Puech had records of sixteen cases in which the ovary was contained in a femoral hernia. In eleven of these cases the hernia was on the right side and in four on the left.

The uterus or one of its cornua was found ten times in the sac in cases of inguinal hernias, three times among the femoral hernias.

Dr. Joseph C. Bloodgood tells me that he has had two cases of femoral hernia with the ovary lying in the hernial sac.

Several years ago I operated on a child in Cambridge for an inguinal hernia. The sac contained the right tube and ovary. They were so intimately blended with the sac that it was impossible to save them, and they were removed preparatory to doing a radical operation.[2]

My experience with ovaries in hernial rings associated with lack of development of the generative organs has been limited to one case.[3]

A postoperative hernia occasionally contains an ovary. I reported a case of this character several years ago.[4] The patient had had an appendix abscess, which it had been necessary to drain liberally. The resultant hernia in the scar was very tender and in dissecting it out I found that the sensitiveness was due to the presence of the right ovary contained in and adherent to the hernial sac.

OVARIAN TUMORS DEVELOPING IN THE INGUINAL CANAL

Since one or both ovaries may occasionally be found in the inguinal canal, we should not be surprised to find now and then a case in which such an ovary undergoes tumor development. Rheinstaedter[5] in 1878 reported the case of a woman, 68 years of age, who had an elongate oval tumor in the neighborhood of the clitoris. In addition, there was a right-sided globular mass, which was found to be a right inguinal hernia. The oval tumor was larger than a child's head, elastic and appar-

1. Puech, A.: Nouvelles recherches sur les hernies de l'ovaire, Ann. de gynéc., Paris, 1879, xi, 401.
2. This case was reported and illustrated in an article published by Dr. Frank T. Andrews (Hernia of the Ovary and Tube, THE JOURNAL A. M. A., Nov. 24, 1906, p. 1707). Dr. Andrews' article gives an excellent résumé of hernia of the ovary and tube, and likewise contains a long tabulation of cases heretofore observed.
3. Cullen, Thomas S.: A Right Pelvic Kidney; Absence of the Left Kidney; Absence of the Uterus, Both Ovaries in the Inguinal Canals, Surg. Gynec. and Obst., July, 1910, p. 73.
4. Cullen, Thomas S.: The Right Ovary in the Abdominal Scar Following an Operation for Appendix Abscess, May, 1906, Bull. Johns Hopkins Hosp., xvii, No. 182, p. 152.
5. Rheinstaedter: Kindskopfgrosses Angiosarkoma Ovarii in einem Leistenbruch, Centralbl. f. Gynäk., 1878, ii, 545.

ently fluctuant. The overlying skin was normal. A probable diagnosis of ovarian tumor in a left inguinal hernia was made. Six months later the left hernial sac was opened. The tumor was easily raised and its broad pedicle apparently containing the tube and round ligament was tied off, some adherent loops of small bowel were loosened and pushed up into the abdomen, and the wound closed. The tumor weighed 750 gm. Careful examination of the right hernia revealed the presence of the ovary in the sac.

Marchand, who made the microscopic examination, diagnosed the tumor as an angiosarcoma.

Rheinstaedter, in reviewing the literature on the subject, was able to find only one case in which an ovarian tumor in an inguinal hernia reached the size of a child's head. This was the case observed by Cazati and quoted by Beigel. The hernial sac contained a portion of an ovarian cyst, the remainder of which lay in the pelvis.

Of solid ovarian tumors contained in hernias he mentions only a case of Guersant reported by Englisch.

Fargas,[6] in 1890, described the case of a woman, aged 38, who had a tumor the size of a man's head occupying the right inguinal and labial region. On the left side was an inguinal hernia containing an ovary, which was easily reducible. The patient said that until eight years previous the right side had presented the same appearance as the left, and Fargas, therefore, diagnosed the tumor as a right-sided ovarian cyst. Six years prior to observation the right hernia had become irreducible, and after that had gradually increased in size.

The hernial sac was opened and the cyst lay free from adhesions. Its pedicle was tied off as in an ordinary ovariotomy and the tumor removed. The patient made a good recovery. The cyst was reticulated (multilocular). Fargas confessed that it might have been confounded with a cyst of the round ligament, but its topography rendered its source certain. The woman had had normal menstruation and had borne two children during the existence of this tumor.

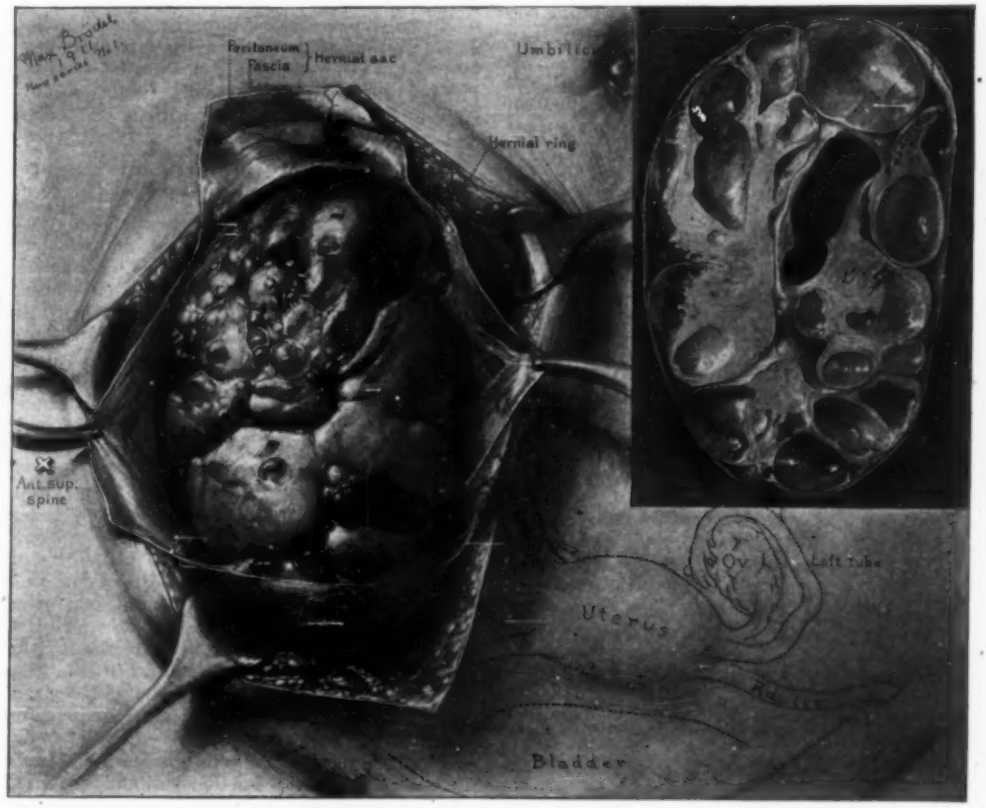


Fig. 2.—EXTRA-ABDOMINAL MULTILOCULAR FIBROCYSTOMA OF THE OVARY. The dotted lines indicate the pelvic structures and the right ovarian pedicle passing upward and outward until it emerges from the hernial ring, a short distance below and to the outer side of the umbilicus. After the abdominal relations had been determined an incision was made directly over the tumor and it and its peritoneal covering were removed intact. A thin layer of fascia and the peritoneum formed the sac. The tumor was roughly kidney-shaped, lobulated and consisted partly of a solid tissue, partly of cysts. Deep clefts subdivided the tumor into several portions. The tumor in the main was free from adhesions, but in a few places there were points of union between the tumor and the peritoneal covering. The drawing in the right upper corner shows the tumor on section. The fibrous tissue is abundant, but at this level the cysts predominate. The clefts are seen to have extended through the tumor. It was possible to lift the various segments out without disturbing the remaining ones. Figure 3 gives the real form of the tumor when liberated from pressure.

Seymour[7] in 1897 reported the case of a woman aged 48. Two years before coming under observation a small tumor had appeared in the right groin. It was somewhat sensitive, hard and irreducible. An inguinal hernia with possibly an incarcerated omentum without strangulation was thought of. At operation the tumor was found attached to the uterus by a pedicle, 4 inches

6. Fargas: Note sur un cas de hernie inguino-labiale de l'ovaire droit avec gros kyste réticulaire du même organe, Arch. de tocol., Paris, 1890, xvii, 767.

7. Seymour: Hernia of a Sarcomatous Ovary, Tr. Med. Soc. State of N. Y., 1897, p. 370.

long and ¾ inch in diameter. This passed out through the inguinal ring to the under surface of the upper end of the tumor in the inguinal canal. The pedicle was tied off and the sac closed. The tumor was ovoid in shape, 4 inches in length and 8 inches in circumference. The microscopic report was spindle-celled sarcoma.[8]

AN OVARIAN CYST PROTRUDING INTO THE INGUINAL CANAL

Baldy[9] in 1898 reported an interesting case of this character. Two years before coming under Baldy's observation the patient had noticed a small pedunculated tumor in the right inguinal region. This had continued to grow until it was as large as an egg and had then been removed. A year later a larger and similar growth had been present and had also been removed. When Baldy saw the patient the growth was as large as a fist. A pelvic examination revealed a mass filling the right side of the pelvis.

At operation, an incision was made directly over the growth and the tumor freed down to a thick, broad, short pedicle which passed into and through the inguinal

Fig. 3.—An Extra-Abdominal Multilocular Fibrocystoma. A schematic representation of the manner in which the tumor tended to develop when relieved from its surrounding pressure. It in reality consisted of four lobes similar in character and joined together by broad or narrow pedicles.

canal. The attachments of the pedicle in the canal were freed and the finger forced into the abdomen when it was found that the tumor was a continuation of a large intra-abdominal mass.

When the abdomen was opened in the median line, the pedicle of the inguinal growth was found springing from a large intraligamentary tumor similar in character. The left uterine appendages were normal. A supravaginal hysterectomy was performed and the hernial ring closed. The patient made an uninterrupted recovery.

8. If the fibrous character of a solid ovarian tumor is definite, one is safe in making a diagnosis of fibroma, and if the growth consists of spindle cells and has many mitotic figures and atypical cell changes, one can with justice make a diagnosis of sarcoma. There are, however, quite a number of solid tumors of the ovary of the spindle-celled type, in which it is impossible to say from the microscopic examination whether the growth is a sarcoma or a fibroma. In such cases the diagnosis can never be definitely determined unless the patient subsequently develops metastases.

9. Baldy, J. M.: Ovarian Cyst Protruding Through the Inguinal Canal, Am. Jour. Obst., 1898, xxxviii, 827.

AN OVARIAN CYST LYING PARTIALLY IN A FEMORAL HERNIA

This condition is exceptionally rare. Dellhaes[10] in 1885 cited the case of a woman, aged 55, who entered the hospital in 1879 on account of ascites. For four years she had complained of discomfort in the lower abdomen, and there had been an increase in size in the right side. Thereafter she had had a crural hernia on the right side and for the last nine months a similar hernia on the left. The right was reducible, the left irreducible.

After the patient had been built up to some extent and after the ascitic fluid had been removed several times by puncture, a right-sided ovarian tumor, partly solid, partly cystic, was removed.

The left ovary was cystic and enlarged. It was partly situated in the pelvis and had to be separated from a solid cord which passed into the femoral canal. The major portion of the large cystic left ovary lay in the fold of the groin and fourteen days later was removed through a herniotomy incision. This portion was as large as a child's head. The patient made a complete recovery.

A SMALL PORTION OF AN OVARIAN CYST INCARCERATED IN THE ABDOMINAL WALL JUST BELOW THE UMBILICUS

Hopkins[11] in 1894 reported an interesting emergency case. The patient, aged 57, was admitted for a supposed strangulated umbilical hernia. Protruding just below the umbilical opening was an almost black tumor the size of a walnut. Still thinking that it was a strangulated hernia, the operator cut the constricting band and the tumor at once disappeared. The abdominal opening was enlarged and serous and gelatinous material began to pour out. On further exploration a multilocular ovarian cyst, weighing about 25 pounds, was found. This was removed and the patient promptly recovered.

A small portion of this cyst had become strangulated in a small hernial defect just below the umbilicus.

DEFECTS IN THE ABDOMINAL WALL

A study of the weak spots in the abdominal wall is of interest. Levadoux[12] made a most exhaustive examination of the inner appearance of the umbilicus, of the final disposition of the umbilical arteries, the umbilical vein and the urachus, and described in detail how these sometimes blended in such a manner as to form a fibrous sheath that completely covered over the inner umbilical opening. In the course of his studies he also noted weak spots in the fascia just beneath the peritoneum. These openings were usually small and were oval, round or irregular in shape.

On careful scrutiny it has at times been noted that hernias, supposed to be umbilical, were in reality periumbilical and that the umbilicus itself was intact. These defects in the fascia are undoubtedly the cause of such hernias. In July, 1910, I saw, in consultation with Dr. A. H. A. Mayer, a boy, aged 17, who had a small hernial protrusion 4 cm. above and to the left of the umbilicus. This hernial protrusion projected 1 cm. through the fascia and was lobulated, forming a mass 3 cm. in diameter. The patient was of spare build. On

10. Dellhaes: Eine Hernia cruralis cystovarii sinistri, Ztschr. f. Geburtsh. u. Gynäk., 1885, xi, 389.

11. Hopkins, George G.: An Ovarian Cyst Simulating a Strangulated Umbilical Hernia., Boston Med. and Surg. Jour., July 26, 1894, p. 84.

12. Levadoux, Michel-Joseph: Variétés de l'ombilic et de ses annexes, Thèse Fac. de Méd. et d Pharm. de Toulouse, 1907, No. 711.

cutting down on the hernial sac I found a small defect in the abdominal wall with a small portion of the omentum projecting through it. The omentum was readily returned and the opening easily obliterated with a few sutures.

Dr. Bloodgood tells me that he observed a case of hernia of the abdominal wall at the semilunar line, that was between the rectus muscle and those forming the lateral abdominal wall. The sac contained non-adherent loops of small bowel. The condition was readily cured. In our case the opening was also at, or near, the semilunar line, and instead of small bowel passing into it the ovary had for some reason occupied the space and later had gone on to tumor development. It is just possible that this weakness in the wall had become particularly accentuated during a pregnancy and that the ovary during its ascent with the pregnant uterus had dropped into the cavity.

In conclusion, I wish to thank Dr. Fred Ray for his kindness in ferreting out the references to the articles read by me in the preparation of this paper, and I am especially indebted to Mr. Max Brödel and the Foundation of Art in Medicine of the Johns Hopkins Medical School for the excellent illustrations.

SOME APPARENTLY OBSCURE CONDITIONS OF THE GASTRO-INTESTINAL TRACT AND THE PRACTICAL APPLICATION OF THE RÖNTGEN RAY IN THEIR DIAGNOSIS *

G. REESE SATTERLEE, M.D.
Attending Physician and Pathologist to the Washington Heights Hospital; Instructor in Medicine in the University and Bellevue Hospital Medical College, New York.
AND
LEON THEODORE LE WALD, M.D.
Director of the Edward N. Gibbs Memorial X-Ray Laboratory; Instructor in Gross Pathology, New York University
NEW YORK

We are not dealing with the obscure conditions of the gastro-intestinal tract as they arise, but mostly with the common pathologic states, often misinterpreted on account of the unsatisfactory methods of diagnosis at the present day. The subject is so broad that we have decided to restrict our paper to the size, position, and motility of the gastro-intestinal tract. Normal patients, or patients with splanchnoptosis with or without intestinal symptoms, constitute our particular theme. Cases of ulcer and malignancy have been omitted on account of limitations of space.

All the cases under consideration have been studied first with regard to the physical signs and the ordinary tests for gastro-intestinal secretions and contents. The Röntgen ray has been used as an aid and confirmatory agent in diagnosis. Whereas due consideration in every case has been given to the history, subjective and objective signs, and examination of secretions, we have found progressively downward and they become confirmed the previous diagnosis, it has also shown the error of the previous diagnosis in an astonishing number of cases. A great difficulty in gastro-enterologic work has been the lack of certainty in the results of clinical tests for size, position, and motility of the hollow viscera. The Röntgen ray solves this problem. Every day we meet patients with moderate or severe grades of constipation, not due to obstructions from tumors. They have usually gone the rounds of numerous physicians or dispensaries, and are relieved only by the continuous use of laxatives or cathartics. Their course is nearly always progressively downward and they become confirmed neurasthenics or slaves to the drug habit. Occasionally, without any scientific accuracy on the physician's part, these patients, if they are fortunate, improve by treatment on general principles.

In previous examinations, chemical tests for motility of the stomach and intestine have been unreliable. Peristalsis of the stomach and intestine sometimes can be seen through an abdominal wall that has been thinned out, usually in advanced emaciation. The entire length of time that food takes to pass from the mouth to the anus can be determined by the ingestion of indigestible and non-absorbable foods or chemicals, such as bismuth salts, which can be recognized in the stools. This does not indicate, however, the length of time consumed in digestion by the different portions of the alimentary tract, and is often inaccurate in determining the time of digestion. Tests for determining residual food in the stomach are tedious and very annoying to the patient, and determine only approximately the final result. This, with our other important data, can be shown by the Röntgen ray, in a properly conducted series of plates.

Radiographs of the alimentary tract after the administration of some insoluble substance which obstructs the Röntgen ray, such as the bismuth salts, have been used in Europe since 1904, by Rieder,[1] Holzknecht,[2] C. Kaestle and J. Rosenthal,[3] Franz M. Groedel,[4] A. F. Hertz,[5] and others; and in this country by G. E. Pfahler,[6] Hulst,[7] Pancoast,[8] Cole,[9] and others. The methods will soon be universally applied. Rieder was the first to give large amounts of bismuth salts. He gave from 40 to 50 gm. of bismuth subnitrate in a meal of boiled rice, barley broth, potato puree, spinach, or boiled meat. The bismuth can be administered by mouth or by rectum. Haenisch[10] was the first to give the bismuth per rectum, in the following formula: bismuth subcarbonate 75 gm., bolus alba 300 gm., water 1,000 c.c. We use the bismuth rectal injection and find it a valuable adjuvant to the method by mouth. Kaestle used zirconium oxid instead of bismuth because it was more insoluble. Of the salts of bismuth, the subnitrate was at first extensively used, but it has caused toxic symptoms. Cases of poisoning due to the impurities in the preparation, or to the absorption of the nitrites formed in the intestine, have been reported by E. G. Beck,[11] W. Alexander,[12] L. Lewin,[13] and many others. The subcarbonate of bismuth is apparently non-poisonous and acts in the same way as the subnitrate toward the Röntgen ray. We have had no toxic symptoms in over forty tests in which large quantities were given. Examination of the bismuth stool shows the bismuth passed through chemically unchanged.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Edward N. Gibbs Memorial X-Ray Laboratory and the Marcellus Hartley Foundation in Medicine.

1. Rieder, H.: München. med. Wchnschr., August, 1904.
2. Holzknecht: Berl. klin. Wchnschr., Jan. 29, 1906; also: Mitt. a. d. Lab. f. radiol. Diag. u. Therap., Vienna, No. 1, 1906.
3. Kaestle, Reider and Rosenthal: Arch. Röntg. Ray, June, 1910.
4. Groedel, F. M.: Arch. Röntg. Ray, September, 1910, p. 156.
5. Hertz, A. F.: Discussion on Groedel's paper, Arch. Röntg. Ray, September, 1910.
6. Pfahler, G. E.: THE JOURNAL A. M. A., Dec. 21, 1907, p 2069.
7. Hulst: Physician and Surg., Detroit, 1905, xxvii, 391.
8. Pancoast: Univ. of Penn. Med. Bull., August, 1906.
9. Cole, L. G., and Einhorn: Radiograms of the Digestive Tract, New York Med. Jour., Oct. 8, 1910.
10. Haenisch: Rep. Am. Röntg. Soc., Sept. 29 to Oct. 1, 1910.
11. Beck, E. G.: New York Med. Jour., Jan. 2, 1909, p. 16.
12. Alexander, W.: Deutsch. med. Wchnschr., 1909, xxxv, 877.
13. Lewin, L.: München. med. Wchnschr., 1909, lxi, 643.

Milk, as representing a suitable form of food, is now being used as a menstruum for the bismuth. A serious objection to ordinary milk is the early precipitation of the bismuth, but this can be overcome by the use of the fermented milks which hold the salts in suspension for a much longer time. Our experiments with bismuth suspended in various media demonstrate that the salts mixed with the fermented milk remain in suspension longer than in other fluid foods, as malted milk, sweet milk, buttermilk, and chicken soup. The next best substance is a thick chicken soup. (Fig. 1.)

For the average adult, 75 gm. of bismuth subcarbonate suspended in 500 c.c. of fermented milk is given with the stomach empty. Previous catharsis is unnecessary and inadvisable. The diet for the previous twelve hours must be light and exclusive of meat, fruits, and vegetables. All medication is omitted.

The radiographs have all been taken with the patient in the standing position. The distance from the anode to the plate is 24 inches, with the plate anteriorly and the anode on a level with the umbilicus. The illumination is dorsoventral, with one or two lateral views, as the occasion demands. The duration of the exposure is from one-sixth to four seconds, mostly under one second. It requires an average of from eight to twelve radiographs to examine a patient. Occasionally, a second series is necessary for a control, or a rectal injection to corroborate the colon findings. For experimental purposes, more plates have been taken than are ordinarily necessary for a routine examination. We find that the radiographs after the rectal injection do not give as natural an appearance to the colon as those taken after the administration of the bismuth by mouth. The plates can be taken much sooner, however, as the bismuth mass reaches the cecum within fifteen minutes and is then rapidly expelled per rectum.

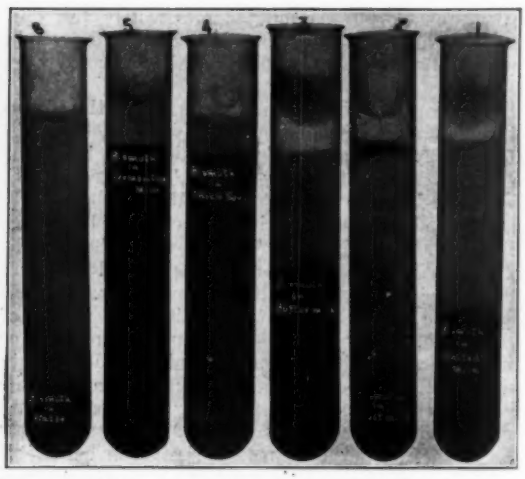


Fig. 1.—Radiograph of substances used for Röntgen-ray test-meals. Each test-tube contains an equal amount of bismuth subcarbonate. It shows the amount of settling fifty hours after suspension. 1. Malted milk and acacia. 2. Sweet milk. 3. Buttermilk. 4. Chicken soup. 5. Fermented milk. 6. Water and acacia. Note the remarkable stability of the suspension of the bismuth in the fermented milk.

We always try to make a primary, a secondary, and a final diagnosis. The primary diagnosis is made from the history, the physical examination, the examination of the gastric contents after a test-meal, and the examination of the feces and the urine. Other examinations are made as the occasion arises. The primary diagnosis is made previous to any consideration of the Röntgen ray.

The secondary diagnosis is made wholly from thorough consideration of multiple Röntgenograms, taken seriatim after the bismuth meal. In every case, the exposures are continued until the last trace of bismuth has left the alimentary tract.

The final diagnosis is made by carefully comparing the primary and secondary diagnoses and weighing the preponderance of evidence offered by the symptomatology.

In estimating the position of the viscera, our technic is to place markers on (1) the tip of the ensiform, on (2) the umbilicus, over (3) the tip of the ninth right costal cartilage, and on (4) the anterior superior spine of the right ilium. The umbilicus, contrary to what we expected, appears to be a fairly well-fixed point, except in very pendulous abdominal walls. It must be remembered, however, though these landmarks are sometimes uncertain, yet if their location is abnormal it is evident on physical examination, and hence allowance can be made.

We shall first mention some of the results, quite constant in nearly all our cases. Our studies on the esophagus have been entirely too superficial as yet to warrant the findings being chronicled. The points in fixation of the stomach agree with those described by anatomists. They are the esophagus and distal end of the first portion of the duodenum, which latter point anatomists say is firmly attached by the duodeno-hepatic ligament (Piersol[14]). In a normal, or at least a nonptosed well-filled stomach, the shadow of the distal end of the first portion of the duodenum reaches the level of the upper border of the second lumbar vertebræ. The outline of the pylorus is situated opposite the junction of the second and third lumbar vertebræ. For the purpose of classification, we consider that if the lesser curvature is well up above the upper margin of the umbilicus, the stomach is not ptosed. The shape of the stomach varies according to the position of the subject. When the patient is in the standing position, in the greatest number of cases, the shape of the stomach resembles that of a fish-hook, and when in the recumbent ventral position, it simulates a steer's horn. This modifies former anatomic views based on dissections in the dorsal decubitus. When the patient is in the standing position, the long axis is vertical; when he is in the prone position, the long axis in the same subject may be oblique or almost transverse.

In order to determine accurately the size, shape, and position of the stomach, studies of plates made within a few minutes after ingestion of the bismuth meal should be made. During activity of the stomach, peristaltic waves can be seen distinctly as constrictions on the greater and lesser curvatures. These are differentiated from permanent constrictions by the changes in form of the organ in the succeeding plates or by the fluoroscope. The former is, in our estimation, more accurate and practical than the latter. The cardiac end of the stomach empties very quickly and shows the rugæ often plainly marked out by the bismuth. In cases of gastric fermentation, the gas rises in the cardiac end and pushes up the diaphragm, as can be well demonstrated in the radiograph.

The average time required for the normal stomach to empty itself completely of a full bismuth meal is, in our

14. Piersol, George A.: Human Anatomy, 1909 ed.

experience, from two and one-half to four hours. It is difficult to prove atony of the gastric musculature, but stasis and permanent pouches can be demonstrated, some of the bismuth remaining in the lower pole as long as ten hours after ingestion.

The motility of the stomach in nearly all cases appears to be most rapid during the early part of digestion. Some stomachs seem to rest after the first thirty minutes to an hour. After that, they still contain about one-quarter of the amount of the original contents, which is discharged in a variable time. The end motility of the stomach is apparently not influenced by the amount of free hydrochloric acid in the gastric contents. The early activity in certain cases of hyperchlorhydria is increased, however. This is demonstrated by the serial radiographs taken up to the final emptying of the organ. The dilated stomachs almost invariably show a slow motility, especially in completion of the act.

The study of the small intestine has so far been unsatisfactory, especially so of the duodenum, on account of the rapidity with which the bismuth meal passes through this part. The first portion of the duodenum can usually be identified by a small mass of bismuth, the so-called "bishop's cap," separated from the pyloric antrum by the outline of the pyloric muscle. The pyloric ring, as thus seen, averages 3/16 of an inch in width. In most of our cases, splashes of bismuth appeared in the jejunum within a few minutes after the entrance of the meal into the stomach, and it is the exception to find the small intestine free from bismuth within ten minutes after taking the food.

The course of the bismuth in the jejunum is first to the left iliac region, but it quickly settles in the median line. It appears between the umbilicus and the brim of the true pelvis in non-ptosed conditions and enters quickly the true pelvis in ptosed states.

We find the progress of the bismuth in the small intestine to be comparatively rapid. In the twenty-seven cases studied for this paper, the earliest time within which the bismuth has reached the cecum was one hour. This occurred in two adults, and in three children about twelve years of age, one of whom had a pan-visceroptosis. Rieder[1] and Goldthwaite[15] consider two hours to be the most rapid time in which the bismuth can reach the cecum, while Groedel and Hertz say that they have not seen the bismuth reach the cecum in two hours, and that four hours is the shortest time it takes. In our slowest cases, so far, the bismuth has taken five hours to reach the cecum. The average time seems to be two hours. Complete emptying of the small intestine can be determined in only nine out of the twenty-seven cases. In these cases it averages about six hours, and varies from four to seven hours. The estimation of the time is rendered uncertain by a dilated, sacculated, or "residual" stomach, which constantly sends over splashes of bismuth into the small intestine until the organ has completely emptied itself.

Normally, the cecum is always situated well above the brim of the true pelvis. When the colon is ptosed, the cecum lies near the brim and in severe cases often hangs over into the true pelvic cavity. Dilatation of the colon appeared in eight cases, in which the colon had not been emptied in forty-eight hours.

In three of our cases, the vermiform appendix can be plainly seen, the lumen being patent and filled with bismuth. This occurred in one case after a cecum had become much engorged, and in another before the cecum had been filled. In these three cases, the situation and size could be proved. In one of the patients the bismuth remained in the appendix four days after the cecum had been emptied.

In one of our patients, with a complete transposition of all the viscera and a coloptosis, a subacute appendicitis seemed probable. The radiograph demonstrated the cecum well below the line leading from the anterior superior spine to the umbilicus and on the left side. McBurney's point, where the place of tenderness existed, corresponded to the hepatic flexure. An operation has not been performed, as the pain and tenderness were probably caused by a localized colitis, as evidenced by the mucus in the stools. The bismuth radiogram proved the locality of the cecum, and, if it did not absolutely disprove the diagnosis of appendicitis, at least showed that the patient's appendix was on the left side and well down in the pelvic cavity. The patient improved under treatment, which was general, and local for the colitis, with an abdominal belt for support for the coloptosis.

Our results as to the position, size, shape, and motility of the colon have been very satisfactory. The organ can

Fig. 2.—Radiograph taken five hours after the ingestion of a bismuth meal (Case 1). A, base; V, the tip of the vermiform appendix; U, umbilicus; T, transverse colon; H, hepatic flexure; B, remnants of bismuth in coils of small intestine; S. S., anterior superior spines.

be readily identified by its size, position, and sacculations. We have classified the cases into (1) normal colons, (2) abnormally long and looped colons, (3) ptosed colons, with or without abnormal length and loops, and (4) abnormally short colons. As to the shape of the colons, the following terms have suggested themselves to our minds: (a) straight, transverse colons, the strictly normal; (b) the U-shaped colon, caused by one large loop, dipping down toward the pelvis; (c) the V-shaped colon, which is similar; (d) the double U-shaped colon, with one loop from the hepatic and another from the splenic portion of the transverse colon; (e) the W-shaped colon, similar to the last; (f) the diamond-shaped colon, with the transverse portion running abruptly upward from the hepatic to the splenic flexure; and (g) the dragon-shaped colon. Our control radiographs show the constancy in the shape and posi-

tion of these colons, and in our estimation prove them to be peculiar to the individual. In some cases, hidden folds in the colon occur which give in later radiographs, after the colon is well filled, a much longer and looped appearance.

A ptosis of the colon is recognized by the low position of the caput coli and of the hepatic flexure. The hepatic flexure is normally at or above the level of the umbilicus. The loops of the colon may exist without a coexisting ptosis, as shown in some of our cases. The most constant point of fixation of the colon is at the splenic flexure where the intestine is attached by the phrenocolic ligament to the left abdominal wall under the spleen (Piersol). The average height of the splenic flexure, in our cases, is 4 inches above the umbilicus, a point which varies but little except in some extreme cases of coloptosis.

Motility of the colon varies, often out of proportion to its length. The motility in ptosed colons we think is always slow.

The sigmoid flexure has, as we expected, a variable length and size. In normal cases it is situated well within the pelvic brim and does not pass much to the right of the median line. The length of abnormally long sigmoids may be estimated by the distance to the right of the median line and the height to which they extend. In three of our cases the shadows of the sigmoid and cecum impinge. In two of the cases long and dilated sigmoids are present, associated with colons of normal length. In one of our patients the sigmoid and rectum held the bismuth for over seventy-five hours and it was forty-eight hours more before the patient passed bismuth in the stool. This made a total residence of the feces in this part of the intestinal tract of over five days. The patient had a long-standing constipation, followed by hemorrhoids, which were excised. The radiographs show a long, looped and ptosed colon, with a long and tortuous sigmoid and upper portion of the rectum.

Fig. 3.—Radiograph taken twenty-six hours after the ingestion of a bismuth meal (Case 1). T, transverse colon, now become U-shaped; A, vermiform appendix, bent on itself; F, traces of bismuth in the sigmoid flexure; C, ascending colon. The lighter areas in the upper part of the colon are due to gas formation.

Our treatment for these cases of gastroptosis, enteroptosis and coloptosis consists of an abdominal wall support, often reinforced by two horsehair pads arranged ventrally, so as to support the colon. Goldthwaite's posture[15] taken immediately after eating, with the patient on his back, hips and thighs elevated, has been tried successfully in a number of cases.

CASE REPORTS

CASE 1.—M. McD., a woman aged 27, child's nurse, single, ever since childhood had been constipated and had to take cathartics or laxatives. For the past two years she had been getting worse, vomiting having occurred from one-quarter to one-half hour after meals. She had pain, which was most marked in the epigastrium, but which also at times extended lower down on the right side of the abdomen and into the right hip and leg. Distress and soreness after eating were invariably present over the sternum. During the summer and fall of 1910 she developed hemorrhoids, which became inflamed and were removed in January, 1911.

After the operation, the patient's symptoms continued; the obstinate constipation could not be relieved by medical means, the chief of which were olive oil internally, ordinary enemas, and olive oil per rectum, colon massage, and vibration. Analysis of the gastric contents showed traces of free hydrochloric acid. The stools were very dry, hard and contained undigested food.

In May, 1911, the bismuth-Röntgen-ray test was made. This showed a stomach of normal shape and size, but ptosed, with a complete emptying in three hours. The bismuth reached the cecum in two hours, and the small intestine was completely emptied in five and one-half hours. Four hours after the ingestion of the bismuth, the cecum and part of the transverse colon were filled, the transverse colon straight, and the hepatic flexure 2 inches above the umbilicus, and therefore no ptosis apparent. The shadow of the bismuth in the ascending colon was so heavy that in consideration of the next picture the colon seemed to be folded on itself (Fig. 2.) One hour later the bismuth meal had not made any progress, but the apparent churning motion and the weight of the residue had dragged down what must have been a folded colon, and distended the appendix. This organ could be plainly outlined by the bismuth in the lumen; it overhung the brim of the true pelvis, was long, and made a sharp bend near its middle. In the last plate of the series, taken 101 hours after the bismuth meal, the outline of the bismuth in the appendix could still be plainly seen. Four hours later, or nine hours after the ingestion of the bismuth, a most remarkable drop in the transverse colon occurred, making a large central loop reaching down into the true pelvis, and the hepatic flexure was one inch lower than in the previous picture (Fig. 3). Twenty-six hours after the bismuth had been taken, very little progress had been made, but the whole colon was distended with gas which collected in the upper parts and raised apparently the level of the hepatic flexure. The sigmoid flexure was outlined in places, and the colon retained the same shape as before. The eighth plate of this series, taken forty-eight hours after the bismuth meal, showed very little progress in the looped colon. The bismuth did not show in the descending colon, but filled fairly well the sigmoid flexure. Up to this time the patient had had no bowel movement; seventy-seven hours after the bismuth meal, the colon retained its same position, but the main mass of the bismuth was still in the sigmoid flexure and the rectum. The sigmoid was very tortuous and long. The appendix was in the same position as before, and the same size. At the one hundred and first hour, without a movement, the bismuth was massed in the sigmoid and rectum and the appendix was still full of bismuth. It was two days after this picture was taken before the bismuth appeared in the stool, making a total of six days for the bismuth to pass through the gastro-intestinal tract. The diagnosis made in her case was a very severe case of constipation which, from the history, was probably the causative factor of the ptosed colon. At the time of writing, a laparotomy, with appendectomy and colopexy, is being considered.

15. Goldthwaite, J. E.: Boston Med. and Surg. Jour., May 19, 1910.

CASE 2.—B. S., a girl 18 years old, shirt-waist maker, said that her mother had an ulcer of the stomach. For years the patient had had obstinate constipation and three years before she had been operated on for appendicitis and abscess formation. Since that operation the constipation had been growing worse, with headache across the temple, cramplike pains in the abdomen, worse at night, vertigo, heartburn, nausea, and occasional attacks of syncope which compelled her to give up work. She had no appetite and would vomit small amounts of food after eating; she said that she had vomited a tablespoonful of bright blood two weeks before examination by us in February, 1911. Her diet had been reduced to a ridiculously low amount, with nothing before lunch time. She had lost weight, but was still fairly well nourished. Her chief complaints were obstinate constipation, frequent vomiting, and pain in the epigastrium and back. Examination of the abdomen showed a good-sized scar over the appendiceal region, abdominal musculature was of good tone, and there was no distention. The outlines of the stomach seemed normal, but there was tenderness over the whole abdomen in general, which was localized over the epigastrium and along the spine, and more marked at the level of the tenth and eleventh dorsal vertebræ. The Ewald test meal showed a 0.07 per cent. and 0.04 per cent. free hydrochloric acid on two occasions respectively, with a total acidity within normal bounds. No lactic acid was present.

The diagnosis of an ulcer of the stomach as being the cause of her trouble seemed unlikely, no blood or occult blood being found in the gastric contents or stools. Lavage relieved her somewhat, but only temporarily. February 27, the bismuth Röntgen-ray test was applied. The first picture, taken fifteen minutes after the swallowing of the bismuth, showed a nearly normal stomach, oblique fish-hook type, which emptied rapidly. The rugæ in the cardiac end were well marked. Within five hours the organ was completely empty. The small intestine was well down in the pelvic cavity.

The last picture in this series was taken twenty-four hours after the bismuth meal, and showed a ptosed cecum and splenic flexure. All the bismuth was in the large intestine, and the transverse portion of the colon has a long U-shaped loop, the lower border of which is 4 inches below the umbilicus, with its center 2 inches to the left of the median line. As this was one of our early cases, unfortunately we did not continue the series until the gastro-intestinal tract became completely empty. For a month and a half the patient was treated by regulation of the diet, massage and vibration, olive oil by mouth and per rectum, and by the usual instructions for regularity, etc., but an occasional cathartic was the only thing that gave her relief, and that only for a day or two. The flatulence, pain and vomiting continued. The pain now seemed localized over the left kidney with tenderness there, and an *x*-ray picture showed absence of renal or other calculi. An exploratory laparotomy showed the long, looped and ptosed colon, which was distended with feces, in spite of previous catharsis and high enemas. One adhesion of the cecum to the abdominal wall, as the result of the appendectomy, was cut. The cecum was dilated but otherwise not pathologic.

Palpation of the stomach gave no evidence of ulcer or growth. The kidneys, gall-bladder and other organs seemed normal. The loop of the transverse colon was freely movable and low down in the pelvic cavity. With no permission to do a radical operation on the intestine, we closed the wound.

Since the operation the patient's condition has not improved, except for a short time after an abdominal web belt for the support of the ptosed colon was provided, and the patient sent to the country. At the end of last May she reported that the constipation was no better and that she still had attacks of sickness. She and her family have been advised of the probable necessity of a radical operation on the intestine, and of the dangers of the same, and have agreed to have it performed soon. We propose to sidetrack part of the colon, or possibly excise part of it.

CONCLUSIONS

1. The length of time that it takes the contents of the gastro-intestinal tract to reach each division of the tract, and the time in which the division is completely emptied, can be definitely determined in each individual by the bismuth Röntgen-ray test.

2. The normal motility of each part of the gastro-intestinal tract can be definitely established.

3. The food immediately after ingestion begins to pass into the small intestine and by the end of an hour, at least one-quarter of the gastric contents is in the jejunum.

4. The stomach is emptied of 500 c.c. of milk or soup in two and one-half to four hours.

5. The existence of an increased amount of free hydrochloric acid in the gastric contents has no influence on the final emptying time of the stomach.

6. The time which this meal consumes in passing to the cecum averages two hours, varies from one to four hours, and is shorter in children.

7. The complete emptying time of the small intestine after this meal is probably about six hours.

8. Complete emptying of the colon consumes from twenty-four to forty-eight hours.

Fig. 4.—Radiograph taken three hours after the ingestion of a bismuth meal. This shows the rapid passage of food through the stomach and small intestine. The colon is dragon-shaped. H, hepatic flexure; T, transverse colon; D, splenic flexure; G, traces of bismuth in the stomach; B, bismuth in the small intestine. Case 6 [not reported in detail].

9. The bismuth-Röntgen-ray test is harmless and practical.

10. The ordinary methods of medical treatment can be more intelligently applied with the improvement in diagnosis accomplished by this test.

11. The bismuth-Röntgen-ray test should be employed before an operation is performed for a chronic condition of the gastro-intestinal tract.

We wish to thank Dr. George B. Wallace and Dr. John C. A. Gerster for their help in sending us patients, Dr. Arthur Mandel for his assistance in clinical and chemical analyses, and Dr. Alexander Smith, Dr. Egbert LeFevre and Dr. Harlow Brooks for their encouragement in undertaking the work.

125 West Fifty-Eighth Street—338 East Twenty-Sixth Street.

CERVICAL IMPLANTATION OF THE PLACENTA WITH RUPTURE OF THE UTERUS

HYSTERECTOMY; RECOVERY

CHARLES GOODMAN, M.D.
Attending Surgeon to Beth Israel Hospital; Sydenham Hospital; Montefiore Home Chief, Surgical Department, Mt. Sinai Hospital Dispensary
NEW YORK

Any investigations which throw light on the causation or treatment of that greatest of obstetrical calamities, rupture of the uterus, are of importance to the obstetrician, the surgeon and the general practitioner. The most frequent causes of this condition are obstructions to the descent of the fetus, with neglect of the procedures necessary for delivery of the child, as in patients treated by midwives or by the laity. Such obstructions are often in the form of contracted pelves, or tumors of the pelvis encroaching on the parturient canal. A normal fetal head of large measurements or a hydrocephalic head may cause obstruction by failure to enter a normal pelvis. Malpositions of the fetus, as a transverse position with a shoulder presentation, lead invariably to obstruction unless properly cared for.

Rupture of the uterus has been the direct result of manipulations, as attempted versions or the use of the hand or curet in efforts to empty a pregnant uterus. Even external violence has been known to produce rupture. The improper administration of ergot in the early stages of labor may cause a tetanic action of the muscle of the upper uterine segment which may end in a thinning out and tearing of the lower segment.

Finally, abnormalities of the uterus itself, as pathologic changes in various portions of its walls, or deformities, as bicornate uterus with a pregnancy in one cornu, play a prominent part in the causation of uterine rupture. The presence of carcinoma, syphilis or soft myomata in the uterine walls, predisposes to its occurence. The scars of previous Cesarean sections often give way during labor and the cervix has sometimes proved so rigid or stenosed as to resist all efforts of nature to dilate it until the thinned-out lower uterine segment is torn apart by the straining efforts of the uterine muscle. Very rarely an ectopic gestation in the mural portion of the Fallopian tube, as it gradually enlarged, has put the uterine wall on the stretch until it has suddenly given way with all the signs of a ruptured ectopic pregnancy in their severest form.

I have observed a case which exemplifies a very rare cause of rupture of the uterus.

History.—The patient was 28 years old, the mother of two children, 2 and 4 years of age, respectively. The first child was delivered with forceps, while the second was the result of a normal pregnancy and delivery, with the exception that at the end of eight months the patient had a slight bloody vaginal discharge which disappeared after a few days' rest in bed. She had had two miscarriages, the last one early in July, 1910, at about seven weeks. Her last menstruation was on May 15, 1910. About the middle of August of the same year, when three months pregnant, she was shocked by the news of the sudden death of her father, and a few days later began to complain of pains in the pelvic region, with a desire to urinate frequently. She consulted a physician who made a very cursory general investigation, omitting the vaginal examination, and pronounced her case to be one of bladder inflammation, for which he continued to prescribe every few days during the subsequent two weeks. Early in September, after intercourse with her husband, she suffered severe pain in the right lower abdominal quadrant. Her physician, who was immediately summoned, gave her a hypodermic of morphin. One week later, after intercourse, she had a similar attack of severe pelvic pain in the right side, for which, as before, she was given a hypodermic. This was followed by retention of urine. She was confined to bed four days, during which time she was catheterized twice daily. For this purpose a glass catheter kept in a solution was utilized. During the following three weeks she had slight pains in the pelvis, some headache and was constipated. During this time she had no intercourse on account of the fear of bringing on another attack of severe pain. Another attempt at coitus on October 2 brought on intense abdominal pains and rectal tenesmus. The physician was called and administered a hypodermic and gave the patient an enema. After this she fell asleep for about two hours, when she was awakened by the recurrence of pain, followed by attacks of syncope. When the doctor returned, he found her in great agony with abdomen distended and a failing pulse. Believing that rupture of an ectopic pregnancy had occurred, I was summoned.

Examination.—When I saw the patient her skin and mucous membranes were completely blanched. Her abdomen was distended with fluid and her pulse had become imperceptible. Faint and fluttering heart sounds could be auscultated. She was conscious, but so weak that she could speak only in monosyllables. On digital examination, I felt the vaginal portion of the cervix somewhat enlarged and having the soft, velvety consistency of pregnancy. The os was closed and there was no sign of any discharge. The vaginal fornices and the pouch of Douglas felt boggy and were very tender to the touch. The fundus of the uterus could not be mapped out on account of the extreme distention and sensitiveness of the abdomen. A detailed examination was not deemed advisable on account of the urgency of the case.

Operation.—I agreed with the doctor in attendance that we had to deal with a probable ruptured ectopic gestation and made arrangements to have the patient transferred to the hospital. On her arrival, she was immediately taken from the ambulance to the operating table. A hypodermic injection of morphin was given and ether was administered by the drop method. On opening the peritoneum a large quantity of fluid and clotted blood was found, and a large fluctuating tumor presented which seemed to be wedged into the pelvis. When this tumor was lifted from the pelvic cavity, it proved to be a pregnant uterus with an attenuated anterior wall which at first sight was mistaken for an ovarian cyst. At the extreme left border of the anterior wall near the broad ligament there was a rent about the size of a silver quarter through which shreds of placental tissue protruded. Behind the uterus more fluid and clotted blood was found. The appendages were normal in appearance. Cesarean section was deemed inadvisable, as, from the meager history obtained during the emergency, I was not sure that there had been no interference and accompanying infection. Furthermore, the condition of the uterine wall was such as not to justify an attempt to suture it. Where the products of pregnancy were retained, the walls of the uterus were as thin and fragile as paper. Hysterectomy was therefore decided on. The bladder was separated from the anterior uterine wall, which was here so thin and paper-like that it was torn, allowing the escape of amniotic fluid, followed by the presentation of the lower extremities of the fetus at the opening. In order to facilitate the handling of the uterus, the fetus was extracted in an upward direction through this tear. The ovarian arteries were clamped and divided and the rectum separated posteriorly. The right uterine artery was then ligated, the cervix cut through and the ligature applied to the left uterine artery. In order to get below the attachment of the amniotic sac, I cut deeply into the cervix, but, although only a small portion of the cervix was left intact, I did not succeed in getting entirely beyond the confines of the placental attachment. The uterus was delivered with the placenta attached. As soon as the toilet of the peritoneum was completed, a saline solution of 1,000 c.c. was injected into the right median cephalic vein and the abdomen was closed without drainage.

Outcome.—During the first twenty-four hours after operation the patient received proctoclysis and some hypodermic stimulation. The bowels were moved by calomel and salts on the third day. Convalescence was uneventful with the exception of a slight rise of temperature due to a stitch abscess near the upper angle of the wound. The patient was discharged from the hospital at the end of three weeks. She now feels perfectly well, has gained seven pounds in weight and is able to attend to her household responsibilities. The hemoglobin, which was 30 per cent. on the day subsequent to the operation, is now 85 per cent.

Pathology.—The pelvis was carefully examined in order to ascertain whether an anomalous condition was present which might have contributed to the cause of rupture.

It is evident from the following measurements that no such anomaly existed:

Distance between the anterior superior spines, 23 cm.; intertrochanteric diameter, 30 cm.; external conjugate, 20 cm.; right and left obliques, each, 22 cm., and the internal conjugate, 11 cm.

The uterus after hardening measures 3½ by 4 by 2 inches, excluding the placental site, which is so torn and irregular as to prevent accurate measurement.*

An anterior thin wall lodging the placenta continues down from the normal thickness of the uterus. This portion when spread downward measures between 3 and 4 inches.

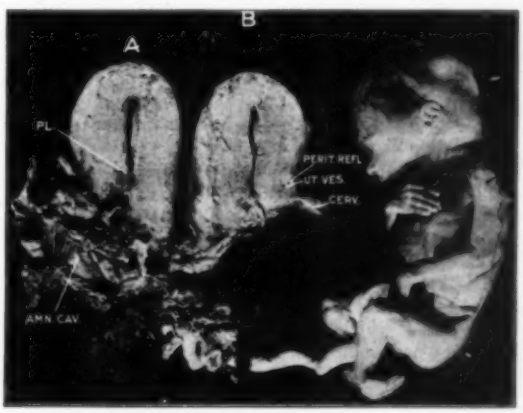
Similarly, the posterior portion of the uterus is a thin muscular wall which also gives attachment to placenta. When the flaps are restored to their natural relations, it is apparent that the placenta occupies the inner surface of the dilated lower portion of the uterus. The posterior portion of the placenta showns an amnion with the umbilical insertion still well preserved. Attached to the cord was a well-formed female fetus 9½ inches in length, nearly 5 months old.

On sagittal section of the uterus, microscopically, the placenta seems to begin at the dilated thin lowermost portion of the uterus just below the insertion of the uterine vessels and nearly corresponding to the anterior and posterior reflections of the peritoneum. This would mean that the placenta occupies the cervical portion of the uterine canal commencing at about the isthmus. The corporeal portion of the canal seems altogether devoid of placenta, microscopically.

Microscopically, the lowermost portion of the uterus shows chorionic villi lining the canal. The glands are for the most part absent. When seen they show very low cylindrical epithelium which has the tendency to form papillæ and are for the most part corpus glands. Only in the smallest areas can cervix glands be seen in sections which also show chorionic villi. These latter are of the transitional form, i. e., they contain for the most part syncytial cells, while the Langhans cells are beginning to disappear. There is an unusually large amount of lime. The chorionic villi show a moderate tendency to penetrate the cervical parenchyma. In some portions of the myometrium, however, a variable number of serotinal giant cells are seen. The musculature shows an outspoken hypertrophy. Here and there is a leukocytic infiltration. This is most marked in the thin walls of the lowest portion of the uterus, where, furthermore, the vessels are filled with thrombi. The thin portion of the uterus measures from ⅛ to ¼ of an inch as compared with 1½ inches thickness of the corporeal portion of the uterus.

While evidences of the inflammatory reaction are not sufficient in this specimen to provide a predisposing cause for spontaneous rupture, the examination proves the presence of a condition quite analogous to one of the aberrant forms of pregnancy, as in the extra-uterine or interstitial varieties. The placental site was below or at the isthmus and its development took place within the cervical canal. There was obviously not sufficient room for the ovum to expand beyond a period of five months. It impinged against the linea iliopectinea. This was a predisposing cause of rupture, the real cause being the fact that the chorionic villi had invaded the entire parenchyma of the wall of the cervix, favoring rupture, as in tubal pregnancy. This process was confined to the small pelvis and the thinned-out cervical walls finally gave way to the increased pressure. It is probable that coitus played an important traumatic rôle in the history of the case.

The mechanism of uterine rupture in this case differs materially from that involved in most cases. Bandl, in 1875, described a ring of fibers in the inner wall of the uterine muscle located about 12 to 15 cm. above the internal os at full term. This is the dividing point during labor between the upper uterine segment, which, by its contraction, propels the fetus through the parturient canal, and the lower uterine segment which is simply passive and dilates to form a passage for the fetus. In the presence of obstruction to its passage through the parturient canal, the upper segment, in its efforts to overcome the obstruction, continues to exert tension on the thinned-out lower segment until a tear occurs. Such an explanation for the rupture in my case can scarcely be taken into account, as the relations of the upper and lower uterine segments are of significance only at a full term delivery.



The photograph shows the two halves of the uterus and attached placenta; A, right half; B, left half; Ut. Vess., uterine vessels; Perit. Ref., lowermost points of peritoneal reflection; Pl., uppermost attachment of placenta; Am. Cav., amniotic cavity; Cerv., cervix.

My conclusion that the case was one of cervical implantation of the placenta is based on the following grounds:

1. The uterus is divided into two general portions, a well-preserved, thick upper portion, and a very much thinner lower portion. The placenta is attached to this lower portion. Neither macroscopically nor microscopically can evidences of placental attachment, such as retained villi, decidua or giant cells, be demonstrated in the body of the uterus.

2. The point where the placenta appears macroscopically corresponds to a line drawn between the insertion of the uterine vessels on either side, and also between the anterior and posterior peritoneal reflections. Both of these landmarks indicate the level of the isthmus and the internal os.

3. The placental attachment was demonstrated in contact with cervical glands.

The findings prove that the case was one of pregnancy at about the fifth month, with spontaneous rupture of the uterus, due to a cervical implantation of the placenta.

* Dr. I. C. Rubin will publish a more detailed pathologic report of the specimens of this case at a later date.

This is probably the first case of its kind reported in this country.

A careful review of the literature of the subject reveals several cases on record abroad in which placental tissue was undoubtedly attached to the cervix.

L. Müller has reviewed the literature, but without finding cases in which the anatomic investigations were thorough enough to assure the correctness of the diagnosis.

In more recent years several cases have been reported which are so convincing in their clinical and anatomic aspects that the occasional existence of a placenta prævia cervicalis cannot longer be doubted.

Dr. Otto v. Weiss[1] reported a case of a quintipara, aged 33, who was admitted at full term on account of profuse hemorrhage, with a diagnosis of placenta prævia. Tamponade was followed by podalic version and delivery, with the loss of a large amount of blood. The child died during the attempt at delivery. The placenta was found intimately adherent to the cervical mucous membrane and was separated from it with great difficulty by manual extraction. A chill and fever occurred and it was found that there was a streptococcus infection with retained shreds of placenta. Vaginal hysterectomy was followed by death on the third day.

A. Keilmann[2] reported a case of a tertipara admitted with ruptured membranes, slight labor pains and some hemorrhage. Spontaneous delivery occurred. Two hours later a portion of undelivered placenta was found adherent to the anterior lip of the cervix and was removed with great difficulty by manual separation.

E. Ponfick[3] reported a case of a nonipara with repeated hemorrhages during pregnancy. A diagnosis of placenta prævia was made and on the left and posterior aspect, the placenta was found to be continued down inseparably adherent as far as the vaginal portion of the cervix.

Jaschke[4] reports a recent case of placenta isthmica et cervicalis.

The cases which have been so far reported in the literature have not been supported by microscopic evidence and are so few in number as to warrant the assumption that placenta prævia cervicalis is either a very rare condition or one which is very rarely recognized.

969 Madison Avenue.

SUBPARIETAL RUPTURE OF SOLITARY KIDNEY *

A. J. MAYER, M.D.,† AND A. NELKEN, M.D.
NEW ORLEANS

The horseshoe kidney, while rare, is sufficiently common to require no especial comment. Those anomalous conditions in which the kidneys are completely fused into one mass are of much less common occurrence. To this condition, the *Kuchinniere* of the Germans, Rokitansky applied the term "solitary kidney," to differentiate it from the true single, or "unsymmetrical" kidney.

Morris, reviewing the statistical reports of four of the largest of the London hospitals, found that while the "horse-shoe" kidney was present once in each 1,000 autopsies, the fused kidney, not of the "horseshoe" variety, was found only once in 15,908 necropsies.

Subparietal rupture of the kidney is comparatively rare. Connell, in a paper read before the Western Surgical Association,[1] collected from all sources a total of 841 cases.

Our case of subparietal rupture of a "solitary" kidney is, we believe, unique in the literature.

History.—Our patient was a white man, 30 years of age, a native of England, and a sailor by occupation. We were unable to get a connected account of his injury and the sequelæ, but, as far as we were able to gather, seven days prior to applying for treatment, while climbing a ladder, he had fallen a distance of from four to six feet. In falling his body swung around, and he struck with his right lumbar region on an iron rail. He complained of some pain in his right side, following the injury, but continued to void urine up to seven days after the accident. We were unable to learn whether or not this urine contained blood. His urine stopping suddenly (?), the captain of his ship sent him to the Touro for treatment.

Examination.—The patient was admitted to the service of Dr. Matas who requested Dr. Mayer to look after him. On admission the patient's general condition was good, his temperature was normal. He showed considerable ecchymosis in the right lumbar region and in the perineum. A large diffuse swelling could be felt in the right side almost to the umbilicus, and longitudinally from the last rib to the pelvis. The abdomen was distended and very tense. About two ounces of bloody urine were withdrawn by catheter. He was catheterized twice more in the following twenty-four hours, but no urine was obtained. He vomited three times the day following admission.

Diagnosis.—The question of diagnosis was interesting. The history of the injury and the mass in the right side suggested at once rupture of the right kidney. But rupture of the right kidney would not explain the absence of urine in the bladder, since there was no evidence of damage to the left kidney. Rupture of the bladder, with postperitoneal infiltration of urine was contra-indicated by the nature of the injury, and, especially, by the fact that the patient had voided urine normally for seven days after the accident.

The possibility of there being but one kidney was discussed, but, if this rare anomaly was present, we could not explain why a ruptured single kidney should secrete what the patient described as being comparatively normal urine for seven days, and then suddenly cease functioning. Rupture of the right kidney, with subsequent sloughing of the bladder-wall, the reason for which we did not understand, seemed to us to be the only plausible explanation of the conditions present.

Because of this opinion, and because the condition of the patient did not justify any unnecessary delay, no attempt at cystoscopy was made. As was demonstrated by subsequent findings, cystoscopy with catheterization of the ureters would have been unintelligible or even misleading, unless styleted catheters had been used and a radiograph taken.

Operation.—At Dr. Matas' suggestion, an exploratory laparotomy was done. The incision was made to the left of the median line, to avoid possible contamination of the peritoneal cavity with what appeared to be infiltrated urine beneath the abdominal wall on the right side. When the peritoneum was opened, the cavity was found to contain about a pint of clear fluid which had no urinary odor. To the right, postperitoneal, extending from the last rib to the crest of the ilium was a large oval swelling which evidently included the right kidney. No left kidney could be found, although search was made as high as the spleen and as low as the pelvis. The bladder was tested and found to be intact. The abdominal wound was closed with some difficulty because of the intestinal distention and the patient turned over on his left side. The ordinary loin incision was made over the right kidney. As the muscles were being cut through there was a gush of bloody urine. The wound was enlarged and the hand introduced. The kid-

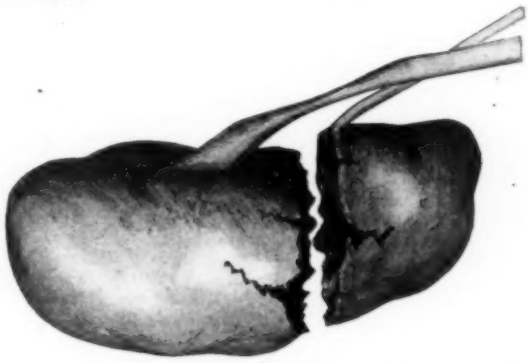
1. Weiss: Centralbl. f. Gynec., 1897, p. 641.
2. Keilmann: Centralbl. f. Gynec., 1897, p. 857.
3. Ponfick, E., and Ponfick, W.: Ueber placenta prævia; insbesondere Placenta prævia cervicalis, Berl. klin. Wchnschr., 1899, No. 35.
4. Jaschke: Ztschr. f. Gynec., March, 1911, p. 1409.

* Pathologic report by F. B. Gurd, M.D.
† Deceased, Jan. 14, 1911.

1. Connell: THE JOURNAL A. M. A., March 25, 1911, p. 875.

ney was found to be lying slightly lower than usual, but otherwise its position was normal. The lower pole of the kidney was roughly broken off and sloughing. The cavity below the kidney was filled with what seemed to be sloughing tissue and partially organized blood-clots. The ureter was felt to be hard and considerably thickened, but there was no dilatation either of the ureter or of the pelvis of the kidney.

As the condition of the patient was bad, no time was lost in careful examination. Drainage with tubes and gauze was done, the wound dressed, and the patient was returned to the ward. Shortly after the operation, the patient voided urine, and he continued to void normal quantities of clear urine. But he never rallied from the operation, and died thirty-six hours thereafter.



The subparietal rupture of a solitary kidney.

From the findings at autopsy, we concluded that, following the injury to the kidney, the upper segment continued to function until the gradually contracting blood-clot finally completely occluded the ureter.

The operation, by removing the obstruction, permitted the kidney to resume its function. The autopsy findings showed that there had been no hydronephrosis.

The autopsy was performed by Dr. F. B. Gurd, whose report is appended.

Autopsy.—This was performed six hours after death; a general examination of the body revealed nothing worthy of note with the exception of those parts in the neighborhood of the right kidney.

Over the loin on the right side is an incision 10 cm. in length, also a second incision of a similar length opening into the mid-line of the abdomen, its lower extremity being 8 cm. above the pubis.

On opening the abdomen, the posterior peritoneum appears to be deep reddish-black in color, the result of a blood-clot lying behind it. This appearance is especially marked in the neighborhood of the right kidney. Separation of this blood-clot, which measures from 2 to 6 cm. in thickness and is moderately friable, deep red in color and firm, discloses the right kidney. This organ is large (weight 380 gm.) and normally firm. Somewhat below the center of the organ from above downward there has been a solution of continuity, the separated surfaces lying about 4 cm. apart, the intervening space being filled with blood-clot and greyish friable masses, apparently necrotic material.

On the removal of the two portions of the kidney and the placing them in opposition, a more or less normal shaped large kidney is seen. The surface is smooth and normal in color, with the exception of an area 2 cm. wide on either side of the rupture. In these zones the surface is mottled deep red and greyish-yellow in color. On section the organ appears in general more or less normal, though somewhat pale. The cut surface bulges and exudes fluid blood. The cortex is thickened, measuring from 0.6 to 0.8 cm. in diameter. The glomeruli are somewhat more distinctly prominent than usual. Differentiation between the cortex and medulla is moderately well marked. The central portion of the kidney on either side of the line of rupture shows irregular deep purple, somewhat softer areas between which lie triangular yellowish portions with the apex pointing toward the medulla. These areas correspond to yellowish blotches seen on the surface.

At the point mentioned, namely 4 cm. from the kidney, the ureter is constricted measuring not more than 0.35 cm. in diameter for a distance of 4 cm. The wall of this ureter throughout its entire length is somewhat thickened.

The second ureter which is approximately half the size of the other arises from the lower portion of the kidney, at the point of rupture. No pelvis, and no calices are present.

Two sets of blood-vessels supply the kidney. One in the neighborhood of the upper, the other in the neighborhood of the lower ureter.

Absolutely no evidence of a second or left kidney can be found.

The bladder contains two normal-looking ureteral openings, the left opening being situated slightly further from the urethral opening than the right, giving the trigone an irregular appearance. The two ureters cross one another about 8 cm. above the bifurcation of the aorta, the right going to the upper pole of the kidney and the left to the lower. On removal, the kidney is found to weigh 400 gm., and, though large when the two portions are approximated, is normal in size. The kidney substance is moderately firm and somewhat paler than normal. On the upper surface of the lower portion several irregular, yellowish blotches are noted.

Anatomic Diagnosis: Congenital absence of left kidney; traumatic rupture of right kidney, retroperitoneal hematoma (perirenal).

Microscopic Examination of Kidney: A section cut from a more normal-looking area of the kidney shows an injection of the renal vessels and a few sclerosed Malpighian tufts. The cells lining the tubules are somewhat swollen and take the red stain with moderate intensity. The nuclei stain well. Within the tubules and about the glomeruli there is a moderate amount of granular red staining material (serum).

Other sections cut from the greyish purple area in the line of rupture consist of blood-clot, made up chiefly of necrotic blood-cells and kidney substance infiltrated here and there with polymorphonuclear leukocytes.

Section 3 cut from one of the yellowish nodules in the lower portion shows a necrosis *in situ* of the kidney substance surrounded by a zone characterized by injection of the blood-vessels and interstitial exudate of serum.

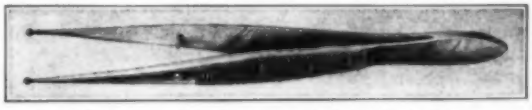
Microscopic Diagnosis: Acute nephritis
Infarcts of the kidney (traumatic).

Perrin Building.

A NEW BLOOD-VESSEL FORCEPS

BERTRAM M. BERNHEIM, M.D.
BALTIMORE

The slightest scratch given the intima during the manipulations required in any blood-vessel work almost invariably spells failure in the form of a thrombus. Sharp-pointed instruments are, therefore, scrupulously avoided in all such work. Indeed, most men find their fingers the best and safest of all instruments.



Blood-vessel forceps with small ball-tipped ends

But since the work can at times be facilitated by a delicate pair of forceps, I have had one constructed which has a small, polished metal knob about the size of an ordinary pin-head on each end. These knobs enable one to grasp the vessel firmly without doing the slightest damage to the intima.

2319 Linden Avenue.

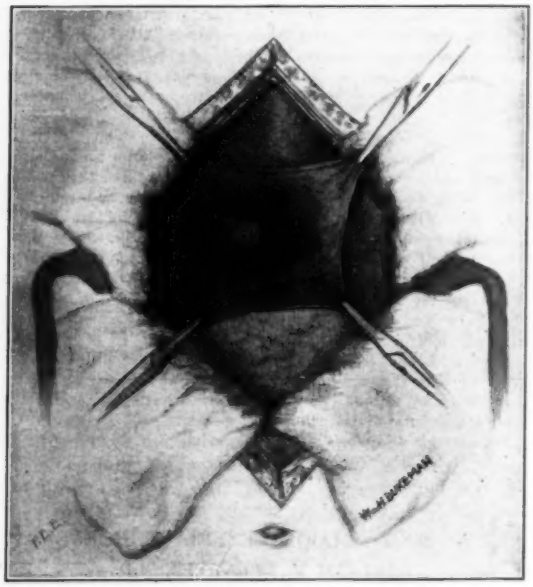
INTRAPERITONEAL CYSTOTOMY FOR TUMOR OF THE BLADDER *

W. H. DUKEMAN, M.D.
LOS ANGELES, CAL.

The conception of the operation of intraperitoneal cystotomy and the successful performance of the operation by Dr. F. B. Harrington of Boston in the year 1893 opened the way for the ideal surgical procedure for the removal of intravesical tumors of the bladder.

Harrington's detailed descriptive technic of the operation,[1] and full explanation of the feasibility of his method gave to the profession an operation in bladder surgery of great advantage over other methods now in vogue.

It is now eighteen years since Harrington first performed this operation, and only a very few surgeons have recognized its safety and ease of performance. The high rate of mortality in the surgery of the bladder for the removal of tumors, either by the suprapubic or perineal route, whether the growth be malignant or benign, does not give very encouraging results.



Abdominal wound, intestines and omentum, walled off with gauze pads, showing incision in the bladder, held open by forceps, exposing the tumor, urethra and right ureter. The left ureter is hidden behind the tumor.

Watson,[2] of Boston, in his tabulated report of 653 cases, shows the unsatisfactory results of surgical intervention by the perineal and suprapubic methods, and suggests the intraperitoneal operation.

Scudder and Davis,[3] of Boston, report four cases of the removal of tumors of the bladder by the Harrington intraperitoneal method, and all recovered.

The surgeons of St. Mary's Hospital, Rochester, Minn., in their collection of papers recently published, report fifteen cases of bladder tumors removed by the Harrington intraperitoneal method with but one death.

From the literature I have at command several other surgeons have reported single cases of resection of the bladder for malignant growths by this method, and with success.

As the intraperitoneal operation has not become as general with surgeons as its merits warrant, I trust that the addition to the list of another successful case, in which I operated recently by this method and which resulted in a most satisfactory and speedy recovery, will lead the cautious surgeon to give this method a trial.

REPORT OF CASE

History.—Dr. A., aged 68, retired physician, consulted me last November for slight hemorrhage of the bladder. His family history is unimportant as he has always enjoyed the average good health. Last November, he first noticed blood in the urine and some discomfort in the region of the prostate gland, with the desire for frequent micturition. The blood in the urine was not constant, but appeared only at intervals, accompanied with the occasional passage of small clots of blood. There was no profuse hemorrhage at any time.

Examination.—The prostate gland examined per rectum was normal for a man of his age. Microscopic examination of the urine showed blood, bladder epithelium, a few villous-like shreds, few crystals of calcium oxalate, no pus; the kidneys were normal. Diagnosis, possibly papilloma of the bladder.

I advised cystoscopic examination and sent the patient on March 28, 1911, to Dr. F. S. Dillingham, who reported the discovery of a growth, about the size of the first joint of the little finger, situated a little above and drooping down over the left ureter; any attempt to raise the tumor caused considerable hemorrhage. The tumor was attached by a broad base and its full length, which discouraged any attempt to remove it by operative cystoscopy. Diagnosis, tumor of the bladder, probably malignant. The bladder was washed out daily with boric acid solution and the patient sent to the Pacific Hospital.

Operation.—This was done April 5, by the intraperitoneal method. An incision was made from the pubes to within one inch of the navel, which gave ample room. The patient was placed in the Trendelenburg position and the intestines, omentum and abdominal incision walled off with gauze pads, leaving only the bladder exposed. The catheter was previously introduced into the bladder by the urethra and the bladder irrigated with boric acid solution. An incision, one and one-half inches, was made in the median line in the posterior bladder wall, and with clips holding apart the bladder incision, the tumor was nicely exposed to view. Its position had been accurately located by cystoscopy, being above and hanging over the left ureter; the lower point of attachment was about one-third inch above the ureter. Its base of attachment did not extend into the muscularis, and the tumor was very easily extirpated. The red-hot platinum cautery point was now applied to the raw surface at the seat of the tumor attachment, and the oozing of blood was completely controlled. The bladder was then carefully cleansed of all clots and mopped dry with gauze sponges. The little flow of urine from the ureters during the extirpation of the tumor, did not interfere in the least. The bladder incision was now closed. The first row of suture with No. 0 chromic catgut was inserted by the Connell stitch, taking in all the layers of the bladder wall, completely closing the incision, the mucous surface thereby being turned in and controlling all oozing of blood from the line of incision. The peritoneum was then enclosed over the first line of suture by the Cushing continuous method with No. 1 Pagenstecher linen thread. The catheter having been left in the urethra, the bladder was now irrigated with boric acid solution and slightly distended to test the line of suture, which proved to be water tight. The catheter was now withdrawn from the urethra, and about two ounces of the boric acid solution was left in the bladder. The gauze pads were then removed and the abdominal incision closed in layers. No drainage.

Histopathologic Report (by Dr. E. L. Leonard).—Epithelioma. Evidently low grade of malignancy.

* Read before the Los Angeles County Medical Association, June 2, 1911.

1. Harrington, F. B.: Ann. Surg., October, 1893.
2. Watson: Ann. Surg., December, 1905.
3. Scudder and Davis: Ann. Surg., December, 1908.

Postoperative History.—The patient recovered from the anesthetic without vomiting and voided six ounces (urine and boric acid solution), three hours after the operation and without discomfort. The bladder was irrigated with boric acid solution three times daily for the first three days, then twice daily until the sixth day when the urine became almost clear, and by the tenth day the urine voided was all clear normal, and the irrigations of the bladder were stopped. The capacity of the bladder by the tenth day had increased to 8 and 10 ounces, while before the operation it was only from two to four ounces. By the eighth or tenth day all postoperative hemorrhage and irritability of the bladder had ceased. After the third day the patient partook of three regular light meals and was quite comfortable throughout the entire period of convalescence, amusing himself reading and relating funny stories to his attendants. He was up and around on the twelfth day and left the hospital on the seventeenth day. The postoperative temperature never arose above 99.4 F. and the pulse remained normal. After the operation there was no abdominal pain at any time, and no more discomfort at the neck of the bladder than had been present for months previously. The only inconvenience which the patient experienced after the intoxication from the ether had ceased was from the pulling of the abdominal stitches.

The surgeons who have adopted the intraperitoneal cystotomy operation for the removal of malignant tumors of the bladder, all agree in the praise of this method over the perineal and suprapubic routes.

The mortality from the cases reported so far, is less than 10 per cent., whereas by the suprapubic and perineal methods it is from 28 to 47 per cent.

In the hands of the careful operator, by the intraperitoneal route the danger of soiling and infecting the peritoneum is practically nothing. In the case here reported, there was no necessity for drainage and there was no postoperative annoyance to the patient; whereas every surgeon dreads the postoperative annoyance to which the patient is subjected by either the perineal or the suprapubic route, and the surgeon's anxiety relative to these postoperative dangers is practically eliminated by doing the intraperitoneal operation.

This single case, with the ease of approach and the ready access to the growth which the surgeon has at command to the base of the bladder, at once suggests the idea that, under favorable conditions, the enlarged prostate gland may be as easy and safely removed and all hemorrhage controlled by closure of the capsule by suture.

1116 Lake Street.

HEMORRHAGIC EROSIONS OF THE STOMACH

WITH THE REPORT OF THE AUTOPSY FINDINGS IN A CASE OF EINHORN'S DISEASE*

N. W. JONES, M.D.
PORTLAND, ORE.

Hemorrhagic erosions of the stomach from the viewpoint of the examination of the fasting organ is not an infrequent clinical finding. In 600 consecutive cases in which this routine examination was made as a part of general diagnosis, there were thirty-five cases, or 5.8 per cent., in which definite erosions of the gastric mucous membrane were found. As shown by the accompanying table, these cases were divided among the following disease conditions: Pernicious anemia, general asthenia, carcinoma of the stomach, carcinoma of the esophagus, cardiospasm, cardiosclerosis, dyspepsia nervosa, Schmidt's fermentation dyspepsia, Einhorn's disease, chronic anacid gastritis, chronic subacid gastritis, chronic acid gastritis, chronic gastrosuccorrhea, chronic gall-bladder disease, chronic intestinal catarrh, spastic obstipation, chronic salpingitis and chronic ulcer of the stomach. Two cases of so-called simple erosion, characterized by sudden severe gastric hemorrhage, afforded no fragments of mucous membrane either by vomiting or later by examination.

From a study of these cases the erosions group themselves logically into, (1) those without clinical significance, and (2) those with positive clinical significance.

Into the first group are placed the fragments of mucous membrane which are, for the most part, accidentally recovered. Chronic gastritis, together with the muscular contractions of the stomach and the trauma from the tube, has afforded thirteen of thirty-four cases. This trauma, together with the contractions of the muscular coats, has seemingly been the entire cause in all of the remaining cases with the exception of the two malignant ones, in which erosions were found. It has been noted also that these erosions were obtained only where there was more or less retching and resistance on the part of the individual. Study of most of the fragments in teased preparations or from sections, in those instances in which the erosions were large enough to be so treated, has not thrown any further light on their etiology. There is always a variable amount of small round cells between the gland acini, but it has been quite impossible to distinguish between round-cell infiltration and normal lymphoid structure. In one large erosion from a case of subacid gastritis "the cuticula and crypts were not broken or disintegrated, but in the deeper portions of the glands the cytoplasm stained faintly and was swollen. In places it seemed to be disintegrating and portions of the glands were missing. There was some small round-cell infiltration, but nowhere was it of marked degree." Other etiologic factors determined by Mintz, Wurtz and Lœudet, Dieulafoy, Nauwerk, Gerhardt, Langerhans and E. Fraenkel, were not found.

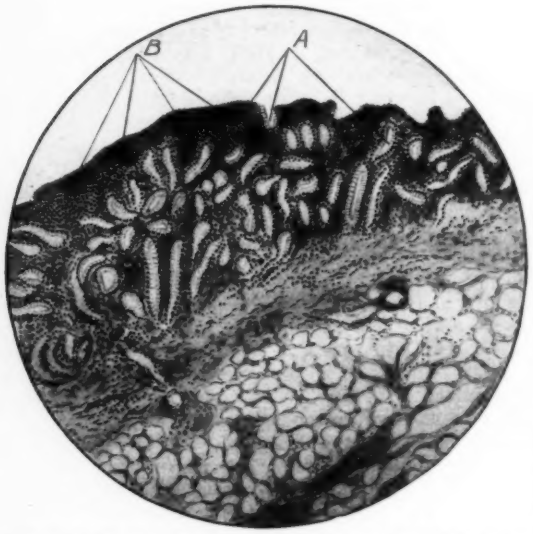
There are, however, two types of hemorrhagic erosions of the stomach of distinct clinical importance, which present fairly definite clinical pictures. They are (a) the so-called simple erosion of Dieulafoy and (b) the chronic and recurring type of erosion described first by Einhorn and now termed Einhorn's disease.

Of the simple erosion, which is characterized by sudden, severe, at times fatal hemorrhage occurring during normal health, usually without pain and with but little sickness, I do not wish to speak, excepting to emphasize the need of a better recognition of the condition and the employment of rational medical treatment. In one of the four cases seen by me death was hastened, if not actually caused, by surgical measures, and two of the three other patients were strongly urged by competent operators to submit to operation. I think it is now quite agreed among surgical writers as well as among physicians that acute bleeding from the stomach is a condition best handled by medical means and not by surgery. In 1901 Rodman reported thirty-two operations for acute gastric hemorrhage with nine deaths, a mortality of 40.6 per cent. In 1906 Laurent reported 93 per cent. recovery in his patients treated medically. A critical review of the literature since these dates bears out this contention more forcibly, and yet such patients are still being operated on. This fact, in my opinion, justifies the clinical grouping of this class of cases in such a way

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

as will emphasize the importance of their treatment whatever the pathogenesis underlying the condition may be.

According to Einhorn, the disease which was described first by him in 1894, and which now bears his name, is a chronic condition characterized by diffuse stomach pain which comes on shortly after eating and is not influenced by pressure, vomiting or eating again; by a sense of great weakness, a rather rapid loss in weight, and, pathognomically, by the repeated presence of from two to four erosions in the wash water from the fasting stomach. Einhorn's belief that this clinical picture was the expression of a distinct disease has been upheld by Mintz, Berger and others. Pariser, Nauwerk and Elsner, on the other hand, have maintained that the basis of the picture has been a chronic gastritis, the ordinary symptoms of which have been forced into the background by the periodic occurrence of the erosions and the bleeding. Owing to the entire absence of post-mortem examinations of such cases, the following typically illustrative case which came to autopsy is given briefly in detail, together with the anatomic findings:



Reproduction from drawing showing histologic characteristics of tissue. A, remnants of gland acini; B, blood extravasation in areas of dense, small round-cell infiltration.

History.—Mr. D., a business man, aged 57 years, began twenty years ago to have, with the coming of each winter, periods of illness characterized by a diffuse sense of burning in the stomach after eating, sometimes on rising, a rapidly developing weakness, paleness and loss of weight. At times there was some nausea and the regurgitation of clear fluid which was not especially sour to taste. All foods produced distress. There was no local tenderness, no fever, chills or sweating. The bowels were regular. Each year the illness lasted several weeks, usually in bed with restricted diet. More or less paleness and weakness would last until warm weather set in, when he would regain his health rapidly, his anemia would disappear and his stomach would again tolerate any kind of food without discomfort. The patient believed a causal relationship existed on the part of the cold and always dreaded the approach of winter. During the illness of the year preceding that of his death occult blood was found in the stools. His last illness came on as they always had before and was of several weeks' duration. Blood was again found in the stools Dr. Mackenzie tells me that blood examinations showed a very severe grade of a chlorotic type of anemia. The patient had weighed 202 pounds before his illness began but had lost much flesh during it. His own personal history and that of his family were negative in all respects.

Necropsy.—Through the courtesy of Dr. Mackenzie I made a post-mortem examination on Dec. 20, 1909, six hours after death. Briefly the anatomic findings were as follows: The body was that of a tall, heavily boned, greatly emaciated middle-aged man. The panniculus was pale and scanty; the peritoneum was smooth and glossy. All parenchymatous organs were very pale and dry. The heart and lungs were otherwise negative. Very small scattered atheromatous patches existed in the beginning of the arch of the aorta. They were absent throughout the course of the abdominal aorta. There was no gross evidence of terminal infection. The bone-marrow of the ribs was pale in color. The intestine and colon were more or less filled with dark, tarry content that contained much blood. The stomach was of normal size, blanched, and contained a little turbid fluid. Over the mucosal surface a moderate amount of greyish, somewhat blood-stained, tenacious mucus was found. On the posterior wall about midway between the cardia and the pylorus were seen five small eroded areas with hemorrhagic margins and bases. They were superficial in character, not extending to the submucosa, and varied from the size of a split pea to 1.5 cm. in length and ⅓ cm. in width. No eroded vessels could be found.

The stomach was given to Dr. Roberg of the medical department of the University of Oregon for histologic examination. He reports as follows:

The mucosal surface of the organ is pale yellowish in color, mottled by several deeply colored and rather circumscribed areas. Sections for examinations were taken through both the pale and the darker portions of the stomach-wall. Microscopically, the dark areas show no difference in appearance from the other. They are pigmented areas of submucous hemorrhages, the coloring of which is derived from dissolved hemoglobin deposited in the interglandular tissue and in the secreting cells of the gastric glands. The interstitial tissue of the epithelial layer of the mucosa is the seat of a dense, small round-cell infiltration. This infiltration is diffuse and more marked in the surface of the mucosa. The deposit of these small round cells is so dense that in many cases the stomach glands have been completely obliterated. Scattered throughout this dense infiltration are islands or portions of glands. Their lumina are distended to two or three times the normal size. The cell cytoplasm is granular and disintegrated and in many places the lumina are filled with a cytoplasmic debris. In the fundus region no differentiation of the gland cells occurs into parietal and chief cells. All gland-cell nuclei stain less deeply than normal. The capillaries in the mucous membrane are markedy dilated along the basement membrane and, in the region of the crypts, show a diffuse extravasation of blood. The blood-vessel plexuses in the submucosal and muscular layers show a thickening of the walls and a slight congestion. The muscular layer, submucosa and muscularis have to a slight degree an infiltration of small round cells.

I submitted also to Dr. Roberg for histologic examination three large erosions from a typical case of Einhorn's disease which I have had under observation for over three years and which I have previously reported. His findings are as follows:

The gastric crypts and cuticular border of the mucosa are quite intact. The neck and fundus portions of the gastric glands are displaced and partly obliterated by a small round-cell infiltration not unlike that described in the previous case but not so dense. The destruction and displacement of the glandular elements, although considerable, are likewise not so marked. Interstitial hemorrhage and congestion are absent.

Thus the microscopic examination of the two cases presents the picture of a form of chronic gastritis characterized (1) by a dense small round-cell infiltration in the interstices of the glandular elements, which when extensive obliterates the gastric glands by pressure; (2) by the disintegration of the cutic-

ular portion of the mucosa as the crypts are displaced by the small round cells; and (3) by the fact that with the disintegration of the cuticula and crypts the congested vessels are exposed and ruptured, which accounts for the gastric hemorrhages occurring during the clinical course of the disease.

An entire absence of proliferation of the connective tissue elements, the engorgement of the superficial blood capillaries and the manner in which the gland cells are destroyed sharply differentiate the process from ordinary chronic gastritis. The claim, therefore, of Elsner and others that the disease is one of ordinary gastritis with the factor of erosion formation added to it is no longer tenable, and neither, on the other hand, is that of Einhorn, for the process must be classified as a type of chronic gastritis. It is, in fact, a chronic, non-proliferative, hemorrhagic gastritis.

In general, I believe it will be well to retain this clinical grouping of hemorrhagic erosions, and to consider them, clinically speaking, as disease entities for the sake of defining their relation to other types of gastric hemorrhage. Simple erosion, on the one hand, probably possesses a manifold etiology. Whether Einhorn's disease likewise does, only further autopsy findings will determine. From the similarity of these two cases, however, it is probable that its pathology will be found to be the same in others.

TABLE OF SIX HUNDRED CASES AND RELATION OF STOMACH EROSIONS TO THEM

Disease.	No. of Cases.	Cases with Erosions.	Erosions Found in Each.
Anemia, pernicious	4	1	2
Anemia, metasyphilitic	1	0	0
Anemia, chlorosis	1	0	0
Aneurysm abdominal aorta	2	0	0
Appendicitis, chronic	3	0	0
Abdominal arteriosclerosis	4	0	0
Arthritis, toxic	3	0	0
Asthenia, general	79	1	4
Brain tumor	1	0	0
Carcinoma, stomach	18	1	2
Carcinoma, pancreas	1	0	0
Carcinoma, sigmoid	3	0	0
Carcinoma, liver (*sec*)	1	0	0
Carcinoma, esophagus	1	0	†
Colitis, mucous	24	0	0
Colitis, chronic ulcerative	2	0	0
Cardiospasm	7	2	2, 2
Cardiosclerosis	15	1	1
Cirrhosis stomach	1	0	0
Dyspepsia nervosa	11	1	1
Dyspepsia fermentation (Schmidt)	13	2	2, 1
Diabetes	1	0	0
Erosions of the stomach (Einhorn's disease)	1	1	4
Erosions of stomach (simple hemorrhagic) examined late after bleeding	2	0	0
Epilepsy, *petit mal*	1	0	0
Fibroid right broad ligament	1	0	0
Gastritis—chronic anacid (inc. achylia gastrica)	47	6	†1, 4. 2, 1
Gastritis, chronic subacid	22	3	1. 2, 3
Gastritis, chronic acid	13	2	1, 2
Gastrosuccorrhea, chronic	23	2	1, 1
Gastrectasis (without ulcer)	11	0	0
Gastroptosis	12	0	0
Gastromyxorrhea	1	0	0
Gall-bladder disease, chronic	29	3	1, 1, 2
Hyperchlorhydria	8	0	0
Hypochlorhydria	3	0	0
Hypertension, arterial chronic	2	0	0
Intestinal catarrh, chronic	22	1	1
Myatonia congenita	1	0	0
Migraine, chronic	4	0	0
Nephritis, chronic	3	0	0
Neurasthenia	31	0	0
Obstipation, atonic	31	0	0
Obstipation, spastic	69	3	†1, 1
Organic heart disease	11	0	0
Polycythemia	1	0	0
Pyloric insufficiency	4	0	0
Urticaria univ.	1	0	0
Salpingitis, chronic	1	1	1
Sacro-iliac joint relaxation	1	0	0
Scoliosis	1	0	0
Tuberculosis, lungs	7	0	0
Tuberculosis, peritoneum	1	0	0
Tabes	2	0	0
Ulcer of stomach, chronic	31	3	†1, 1
Ulcer of stomach, healed	2	0	0
Ulcer of stomach, duodenal	2	0	0
	600	35	

† Many.

ABSTRACT OF DISCUSSION

DR. ROBERT T. MORRIS, New York: In these days when so much credit is given to proper stomach surgery, I wish to emphasize a point made by Dr. Jones that hemorrhagic erosions of the stomach are not cases for the surgeon. Whatever credit comes to surgeons is from wise selection of cases. Surgery does not at all comprehend the question of gastric erosions and does not give relief because the original condition persists. Again, there are the shock and other features which were incidental to operation, features that are not desirable. There was one point, however, that Dr. Jones did not bring out and one which I believe to be very important. We should learn more of the early septic history, and especially of the ordinary medical treatment that was employed at the time the erosions occurred. Of course, the patients must have treatment when these erosions of the stomach occur, but the earlier toxic history should be kept track of in all these cases. We should remember that hyperchlorhydria and hypochlorhydria are symptoms like coughing or sneezing. The hormones send wrong messages to the secreting glands. What reason have we for believing that excreted toxins are basic factors in these erosions? What is found in the peritoneum of the vicinity gives us a clue? We all have found peritoneal adhesions so common in the pyloric region that we must assign some significance to them. We often meet with cases of adhesions, "cobwebs in the attic of the abdomen," which are due apparently to the excretion of toxins by the liver; in some cases the lesion might be due to the actual excretion of bacteria, chiefly of the colon-bacillus group, which pass the liver unharmed at times, but set up trouble in the bile-tract. The endothelium desquamates, lymph is excreted, coagulation occurs and adhesions are then formed and gastric disturbances follow. These hieroglyphics most of you can read and must read. When these hieroglyphics in *bas relief* occur in the peritoneum, the "cobwebs in the attic of the abdomen," we must look for an explanation in the toxic influences preceding erosion. Such toxic influences result in spasm of the terminal arteries situated in this region. Please do not forget the terminal arteries, for we are dealing with them. The toxic spasm of the terminal arteries here results in cell infiltration and other pathologic conditions, such as Dr. Jones has described in his paper.

In the treatment of hemorrhagic erosions of the stomach, surgery should not, I believe, be considered at all; medical treatment alone should be employed; any operation in these cases must result in disaster. If we hark back to the original cause I think we shall find that hemorrhagic erosions of the stomach are the result of excreted toxins.

DR. J. F. HULTGEN, Chicago: Erosions of the stomach are not considered sufficiently in connection with the constant anemia which one meets with in these cases. This fact suggests to me that there might be an anatomic cause for this condition—the symptom-complex might be due to the anemia itself; it might be due, as Dr. Morris has suggested, to some toxic process. The anemia coexistent or coexisting in these cases has not been thoroughly inquired into; more investigations should be made in order to bring out this matter. As a matter of fact, the anatomic basis, so far as was shown by Dr. Jones, was not sufficient to explain the clinical course of the disease. I believe that the gastric hemorrhage from the erosion is nothing but a symptom, and that the underlying morbid process might be of hemolytic nature or of toxic origin.

DR. PHILIP KING BROWN, San Francisco: This condition of hemorrhagic erosions of the stomach is not recognized easily. Hemorrhage occurring in association with pain might be the result of chronic disease of the appendix, so fully described by Moynihan several years ago. He reported twelve cases, the symptoms of which were classical of gastric ulcer; at operation no ulcers were found. In each instance, however, there was found a diseased appendix. When the appendix was removed in these cases all the symptoms of gastric ulcer disappeared. It was my lot to recommend for operation practically the same kind of a case; this patient presented symptoms that made one feel quite positive of his diagnosis. The individual had been under the care of Dr. Boas and Dr. Ewald and other

stomach specialists of note. They all made a similar mistake in the diagnosis. The symptoms were entirely gastric and hemorrhages were quite frequent. Under my care and while on a strict Lenhart diet, with the usual subnormal temperature, there suddenly developed a rise of 4 or 5 degrees above the normal. Evidently there was some pathologic condition in the appendix, as the fever was accompanied by pain, spasm and tenderness at McBurney's point, but it did not seem wise to operate on her at the time. Later at operation a very careful exploration of the gastric region was made, but nothing was found at all. The appendix was examined and removed, because adjacent to it was found a calcified gland and there were other evidences of old disease of this organ in the way of firm adhesions and partial occlusion and thickening. No really satisfactory explanation of the cause of hemorrhage from the stomach in these cases has yet been given. Whatever statements have been made thus far are not at all satisfactory to those who are looking for an explanation, but the point of gastric hemorrhage without ulcer from disease of the appendix is well established and should be borne in mind.

DR. N. W. JONES, Portland, Ore.: In an exhaustive search of the literature on Einhorn's disease there are found no records of cases coming to autopsy. The pathology of the case reported by me seems to be distinct, but it needs verification by other cases. This condition is entirely distinct from those septic conditions in which stomach bleeding has occurred, as reported by Moynihan and Dieulafoy; and, it would seem to me, can have no relation to them. Its pathogenesis is not known. It does not seem to be that of ordinary chronic gastritis.

BUBONIC PLAGUE

WITH SPECIAL REFERENCE TO THAT OF GROUND SQUIRREL ORIGIN *

GEORGE W. McCOY, M.D.
Passed Assistant Surgeon, U. S. Public Health and Marine-Hospital Service
SAN FRANCISCO

Bubonic plague is a subject with which, fortunately, few of us have to deal. The practitioner in California, however, especially if his lot has been cast in the rural communities, must always keep the disease in mind when any acute febrile case comes under his observation. It is my intention to discuss only the isolated cases that occur in the country districts. Those that have been seen in San Francisco and in Oakland at various times between 1900 and 1908 were clearly associated with the presence of plague among rats, while the cases to which I particularly refer are associated with, and due to, the prevalence of the disease among ground squirrels (*Citellus beecheyi*). While plague in man when contracted from these animals is probably not essentially different from that derived from other sources, usually from rats, the cases that have come under observation are sufficient in number to justify us in examining them with care, especially as they are due to infection from a source that is unusual in other countries.

Two or three years after plague had been recognized in San Francisco, several cases of the disease occurred among persons living in the rural districts in the country across the bay from San Francisco. Surgeon Rupert Blue, of the Public Health and Marine-Hospital Service, noted in one or two instances that the disease occurred in those who had hunted ground squirrels a few days prior to the onset of the illness, and he suggested that since there had been no contact with human plague, and no known opportunity for infection from rats, the disease might be present in the squirrels, and be communicated from them to man.

During the past three years I have conducted the bacteriologic investigations in eleven cases of plague of ground squirrel origin. Seven of these patients I have seen clinically, and verified the diagnosis by laboratory methods, while in four the diagnosis was made from the bacteriologic examination of tissues taken at autopsy and sent to the laboratory. Six of these patients, all from the known infected zone, gave a clear history of handling ground squirrels within a week prior to the onset of the symptoms. Five gave no such history although they had been in vicinities where plague was known to exist among the ground squirrels at the time, or where it was demonstrated as a result of the investigations set in motion by the discovery of the disease in man. Of these eleven patients, seven were young men between the ages of 13 and 37; one was a boy aged 5; another, a boy aged 7; while two were young women. Six of these proved fatal, while five recovered.

Clinically there were three groups: The severe acute, the mild acute, and the subacute or pyemic. Six belonged to the first group. A typical history of one of these is as follows:

About a week before becoming ill, the man had been squirrel shooting. The first complaint was of pain in the back and in the groin. There was great prostration. The temperature was 101.4 F., pulse 100. The second day, a swelling was made out in the femoral region. The third day, the patient was delirious and remained so until he died. The highest temperature recorded in this case was 103.8 F. but it usually goes to 105 F. or over. Death occurred on the fifth day of the illness.

One of these cases was rather unusual in that recovery occurred after invasion of the blood-stream by the plague bacillus. The evidence of septicemia was the recovery of the bacillus from the blood, and the development of secondary buboes in the regions of the various peripheral lymph glands.

The mild cases were four in number; all ending in recovery, but none was so mild as to justify calling it pestis minor. The history of the most recent case is as follows:

There was no evidence of contact with squirrels, but the patient, a girl, lived in a territory that was known to be heavily infected. The first symptoms were headache and fever. These were followed by pain and tenderness in the right groin. The disturbance was so mild that it was thought sufficient to consult a physician by telephone. However, when improvement did not occur, the patient was visited by the medical attendant, who found a temperature of 104 F. There was a bubo in the femoral region. One week after the onset of the illness the glands were removed under an anesthetic. The patient made an uneventful recovery, never having been regarded as dangerously ill.

The subacute class is represented by only one among the squirrel cases that have come under my observation. This has been reported in detail by former Acting Assistant Surgeon W. B. Wherry and myself.[1] These cases of subacute or pyemic plague are seen occasionally in epidemics of rat origin.

The patient was a youth, aged 13, who had been squirrel shooting about five days prior to the onset of the symptoms. The illness began with headache and vomiting. The next day the temperature was 104 F. Forty-eight hours after the onset of the symptoms, the glands in one axilla were found to be much enlarged and very painful. The nature of the dis-

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.
* From the Federal Laboratory, San Francisco.

1. Wherry, W. B., and McCoy, G. W.: Jour. Infect. Dis., November, 1909, vi, 5, p. 670.

ease was not suspected and the glands were excised. On the fifth day all of the superficial glands became swollen and tender. The sputum was blood-tinged, and the patient was evidently quite ill. On the tenth day a pustular eruption appeared and plague bacilli were found in one of the skin lesions. The patient became septic and died on the sixteenth day of the illness. At the post-mortem, caseo-purulent foci were found in the lungs, liver and kidneys, as well as in the lymph glands.

No case of primary pneumonic or primary septicemic plague attributable to ground squirrel infection has come under observation.

On account of the importance of a diagnosis that cannot be impeached, it is required that all of these cases be verified bacteriologically; a few words may be said, however, about the clinical diagnosis. The onset is usually with fever, headache and pain in the back. Nose bleed often occurs. Several of the cases gave a history of an initial chill. The temperature is usually about 102 F., or 103 F. when the patient is first seen by a physician. A glandular swelling appears, sometimes coincident with the onset of the other symptoms, but usually a day or two later. In eight of the eleven cases, the primary bubo was in the axilla; in three it was in the groin. The gland involved is tender. The outline is lost in an edema that surrounds the parts. Fever and other general symptoms continue from five to eight days, or even longer. In the only cases in which recovery has taken place and the glands had not been excised, suppuration occurred. In the fatal cases, the patient usually dies while the glands are caseous and hemorrhagic and before pus has formed.

It is a pleasure to be able to state that although the disease is rare our recent cases have been recognized as suspicious by attending physicians and by the surgeons who removed the glands.

The bacteriologic diagnosis is made by the examination of a piece of the gland removed at operation, of fluid aspirated from a gland, or of tissue removed at the necropsy. When the smears show a considerable number of pest-like bacilli, a provisional diagnosis is made. The bacillus is isolated by cultural methods and laboratory animals are inoculated. It is the rule that the media inoculated from the bubo show an enormous number of colonies of *Bacillus pestis*, but in one case only six colonies appeared on the three tubes used, showing apparently that bacilli were very scarce. The growth was highly virulent, though the case was a mild one.

An experiment was undertaken for the purpose of ascertaining whether there was any difference in virulence for laboratory animals of the cultures isolated from the mild and from the severe cases of plague in man. Without entering into the details of the experiment I may state that the bacilli derived from mild cases were quite as pathogenic as those obtained from the severe and fatal cases. In other words, the severity of clinical manifestations is due to the varying resistance of the individuals rather than to a difference in the virulence of the organisms causing the disease.

Whenever practicable, the cases are treated with antipest serum, but the majority have come under observation too late to be benefited by it. The other treatment is purely symptomatic.

So much for the subject as regards human plague. I shall now discuss briefly the more important problem, the infection among the ground squirrels. The first proof of plague among the squirrels was obtained in the summer of 1908. Since that time, by an extensive investigation of these animals throughout the state, it has been found that the disease is probably confined to ten counties lying east and south of San Francisco Bay. This work has been carried on by the Public Health and Marine-Hospital Service, the immediate direction being in the hands of Surgeon Rupert Blue. The squirrels are shot and sent to the laboratory where they are dissected and examined.

In the rodents, the disease causes well-marked and readily recognized lesions which vary greatly. The larger percentage of cases are distinctly subacute or chronic, while a smaller number are of the acute type.

The pest bacillus isolated from infected squirrels is, morphologically, culturally and bacteriologically, in every way identical with that isolated from man and from rats. As to its pathogenicity, I may say that the organism appears to be a trifle less virulent than those from other sources; however, no definite statement is to be made on this point.

A very interesting observation is that many of the squirrels from the zone in which plague has prevailed for several years are relatively immune to laboratory infection with *Bacillus pestis*.

During the routine examination of these rodents, we have encountered a disease, the gross lesions of which bear a very strong resemblance to those of plague.[2] It is readily differentiated by bacteriologic methods.

The subject of the transmission of the disease from one squirrel to another, and from these rodents to man, is a very important one, and I regret that we have no conclusive evidence about the mode of infection. We have been able to show experimentally that plague may be carried from squirrel to squirrel by means of fleas. It may also be transmitted by feeding. What evidence we have, largely dependent on the location of the bubo, leads us to suspect that the disease is conveyed in nature by fleas, and possibly by other ecto-parasites. Briefly, this evidence, the importance of which in rat plague has been demonstrated by British workers in India, is as follows: In natural infections in rodents the bubo is found in the region of the peripheral glands, cervical, axillary, inguinal or pelvic. This agrees with the distribution of buboes in squirrels, rats and guinea pigs that have been infected experimentally by fleas, while in rodents infected by feeding, the buboes are always in the neck or in the mesentery. It will be noted that the neck buboes may be acquired in either way, i. e., through fleas or by ingestion.

In one of the cases the patient, a boy, was bitten on the hand by a squirrel, and since the primary bubo occurred in the axilla on the same side, it seems reasonable to suppose that the bite infected the boy. This is rendered probable as many plague squirrels have lung lesions. Most of our cases have occurred during the summer months, which is the season of squirrel hunting. That the mere handling of an infected animal is not very dangerous is shown by the fact that the employees of the service have handled hundreds of plague squirrels without an accident, merely taking precautions against fleas.

The predominance of axillary buboes in human cases would appear to be accounted for by the fact that in handling infected squirrels which may carry parasites, the hands and arms would be more exposed to the attacks of the insects than other parts of the body. We cannot assert positively that parasites carry the disease to man, but it seems to be the most reasonable explanation.

2. Pub. Health Bull. 43, U. S. Public Health and Marine-Hospital Service, Washington, D. C., 1911.

The question might be asked why so few cases of plague in man have resulted from the extensive infection among the ground squirrels. The answer is not quite clear, but leaving aside such matters as failure to recognize or to report the disease, it may be stated that the evidence offered by the examination of infected squirrels leads to the belief that a comparatively small percentage of them have the bacilli circulating in their blood in any considerable numbers. Of about 250 infected squirrels of which we have complete records, only about one-fourth could have been regarded as septicemic at the time they were shot.

The chief menace of squirrel plague is, as has been recognized from the first by all of those who have occasion to deal with the subject, the danger of the infection of the rats of the cities, which might lead to more or less extensive outbreaks among human beings. The discussion of this problem is not within the scope of the present paper.

I wish to acknowledge here my indebtedness to the various physicians in the state in whose practices the cases occurred and who furnished me with the clinical data.

ABSTRACT OF DISCUSSION

DR. EDWARD F. WELLS, Chicago: The paper of Dr. McCoy is a very important one bearing on bubonic plague with special reference to ground squirrel origin. I should like to ask him for what purpose the animal was killed and what becomes of the carcass? Also does each species have special fleas of its own?

DR. G. W. MCCOY, San Francisco: The squirrels examined have all been killed or caught by hunters employed by the Public Health and Marine-Hospital Service for the purpose of securing specimens in order that the extent of the zone of plague infection may be determined accurately. As to the matter of fleas, in a general way we may say that each species has a special flea of its own, and, judging from what we have learned by experimental work on the lower animals, fleas from one species are capable of carrying the infection to other species, in addition to carrying it among the members of the species to which the particular flea properly belongs.

METHOD OF INFECTION IN PNEUMONIC PLAGUE *

RICHARD P. STRONG, M.D.
AND
OSCAR TEAGUE, M.D.
American Delegates to the International Plague Conference, Mukden, Manchuria
MANILA, P. I.

The object of the present investigation in Manchuria was to show, first, whether in cases of pneumonic plague pest bacilli become disseminated into the air by the vapor arising from the breath, as in ordinary or in dyspneic respiration, and second, whether the organisms are disseminated by moderate attacks of coughing of pneumonic plague patients in whom the cough does not result in the expulsion of particles of sputum visible to the naked eye. In the course of the experiments on a number of occasions during coughing, small droplets or larger particles of sputum, visible to the eye, were raised and touched the surface of the media on the plate cultures which were exposed before the plague patient. The study of these culture obviously is not included in this investigation. The cultures were invariably exposed before cases of pneumonic plague with bloody sputum, and in which enormous numbers of plague bacilli had been shown to be present. All of the patients, before whom the plates were exposed died of plague infection within twenty-four to forty-eight hours from the time of the exposure. Twelve series of experiments were performed in which seventy-eight plate cultures were exposed and the microorganisms which developed on them studied.

The experiments were performed in the following manner:

The plates were sterilized in the hot-air sterilizer within a metal plate-holder; they were then removed, the cultures poured in the usual way, and as soon as the medium was sufficiently hard, were replaced within the plate-holder and taken to the bedside of the patient, in the sputum of which plague bacilli had previously been found. All of the attendants were asked to retire from the room in order that as little dust as possible might be present in the air. The condition of the patient before whom the plates were exposed was noted, and during the exposure of the plate, the character of the respirations were particularly observed and notes made of whether coughing or talking occurred. The time of the exposure of the plate and the distance from the patient were also recorded in each instance. The plate was then returned to the holder and placed in the incubator. After twenty-four hours the cultures were examined for the appearance of colonies and their number counted, but the plates were not opened until after forty-eight or seventy-two hours. The colonies were then again counted and carefully studied. Any of the colonies which in any way resembled colonies of the plague bacillus were transplanted to agar slant cultures. The morphology and the staining properties of these organisms were then studied.

In every instance in which the morphology was at all similar to that of the plague bacillus or the organism decolorized by Gram's stain, it was inoculated either into mice or guinea-pigs. In a few cases the colonies were so thick on the plate, or surface growths from air contamination with bacteria were so extensive that the separate organisms could not be isolated and studied. In these instances a suspension of the whole plate was made and a portion of the suspension either rubbed over the scarified abdomen of a guinea-pig or inoculated subcutaneously into a mouse. On several occasions in which it seemed hopeless to determine whether the plague bacillus was present or not on the plate, owing to the extensive contamination of the culture with air organisms, the animal so inoculated died of plague. In a few instances the plates were discarded because of very extensive contamination from air organisms which covered the whole surface of the plate, with a very thick layer of growth. During the colder weather in Mukden the plates exposed before plague patients during ordinary respiration were frequently entirely sterile. The plates were exposed vertically before the mouth and nose of the patient; the time of exposure varied between two and five minutes; generally the shorter period was employed. In the experiments performed in the earlier part of the investigation the plates were held at a distance of from 2 or 3 inches to 3 or 4 feet from the mouth of the patient. Later in the experiments, when it became evident that in cases without cough during exposure, no plague bacilli were encountered at the greater distances, they were exposed at a distance of from 2 to 4 inches in front of the mouth and nose.

We shall not present here, in detail, the results obtained with each plate culture, these will appear when publication of the entire results are made. In thirty-nine instances the plates were exposed before patients who did not cough during the time of exposure, and notwithstanding the fact that many of the patients suffered with marked dyspnea and advanced edema of the lungs, in only a single instance was the plague bacillus encountered in one of these plate cultures,

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

although in a number of the experiments the surface of the media was visibly wet by the vapor arising from the breath.

In this one case the conditions of the experiment were as follows:

Three plate cultures were all exposed at a distance of about 3 inches, and for two minutes before a patient with marked dyspnea who died two hours afterward. A suspension of the bacterial growth which developed on one of these plates, and which covered almost the entire surface of the plate, was made, and a portion rubbed over the abdomen of a shaved guinea-pig with the side of a scalpel and the skin then freshly scarified. The animal died of plague infection six and a half days later; there were inguinal buboes and miliary nodules in the spleen.

The animals inoculated with the colonies from the other two plates exposed in exactly the same manner did not develop plague infection. The results obtained from this one plate are different from those obtained from the remaining thirty-eight plates. Two possible explanations of the result suggest themselves: (1) that the plague bacilli reached the plate exposed before the patient in the plague ward in some other way than by the expired air; (2) that the plate was infected with plague bacilli by the droplet method through the forced expirations of the patient during the time this one plate was exposed.

The remaining number of plate cultures, thirty-nine, were exposed before patients who coughed during the time of exposure, and in fifteen instances, colonies of plague bacilli developed on the exposed plates. In some cases more than 100 colonies of this organism were obtained on the cultures after a single cough, sometimes in almost pure culture.

Guinea-pigs in which the abdomen had been shaved and extensively scarified just before the time of the experiment, were exposed before three cases of pneumonic plague for a period of two minutes and at a distance of 2 inches from the mouth, the abdomen being placed toward the mouth. The breathing of the patient in all of these experiments was labored, so that the hair of the guinea-pigs waved back and forth in the breeze made by the expired air, but no cough occurred during the time of the exposure. The animals remained alive and did not develop plague infection.

The results of all these experiments are in accord with those of Nägel, Flügge and their pupils whose experiments showed conclusively that by currents of air bacteria are not lifted from moist surfaces, but that in the coughing of tuberculous patients the *Bacillus tuberculosis* might become disseminated into the air suspended in fine droplets (drop infection).

However, these observers concluded that in the case of pulmonary tuberculosis this was not a very practicable or frequent method of infection. In pneumonic plague the conditions are very different, owing to the enormous numbers of plague bacilli which are present in the lungs and bronchi. In our experiments, performed with cases of marked pulmonary edema, the conditions were also different. The opportunities for infection by means of the droplet method must be very great in a pneumonic plague ward.

CONCLUSIONS

1. During normal and dyspneic respiration of primary pneumonic plague patients, plague bacilli are not usually expelled by means of the expired air.

2. During the coughing of such patients, even when sputum visible to the naked eye is not expelled, plague bacilli in large numbers may become widely disseminated into the air surrounding the patient.

3. As to the distance from the patient that the air may be infected by droplets containing plague bacilli, this varies largely with the strength of the cough, the amount of mucus in the throat and larynx at the time, and the currents of air in circulation in the ward.

4. The idea that infection of doctors, nurses, attendants, etc., in plague hospitals is caused entirely by particles of sputum expectorated by the patient and visible to the naked eye, is erroneous. It follows from these experiments that the wearing of masks and the proper covering of any surface of the skin where fresh abrasions are present are important personal prophylactic measures in pneumonic plague. It also follows that the eyes should be protected against this manner of conjunctival infection by proper glasses.

5. Articles of clothing worn in the wards should immediately be sterilized after removal, since, even though no particles of sputum may be visible on them, plague bacilli may be present.

PREVENTIVE MEDICINE SECTION COMMITTEE REPORTS

REPORT OF COMMITTEE ON METHODS FOR THE CONTROL OF PLAGUE*

Your committee begs leave to report as follows: Plague infection exists to-day among the ground squirrels—rural rodents—of California. No infection, in man or rodent, has been found in the centers of population in California since the fall and winter of 1908, and none in the state of Washington since February, 1910, the last human case having occurred in Oakland, July 17, 1908. In the past two years more than 200,000 rats have been collected in San Francisco and Oakland and examined in the laboratory, without yielding a single case of infection. Your committee, therefore, is of the opinion that all traces of the disease have been eradicated from the cities about the bay. Notwithstanding the successful outcome of the anti-plague campaign the Public Health and Marine-Hospital Service intends to enforce prophylactic measures in these centers for a considerable period longer. These operations include building reforms, rat-proof construction, rat extermination ashore and aboard vessels, and such other methods as tend to exclude plague.

Numerous foci of infection have been found in the rural districts, affecting large areas in the central and coast counties of the state. Human cases have occurred in four of the counties covered by the epizootic, and in each case there existed an intimate association with ground squirrels. The epidemiologic observations and the laboratory work of the officers of the Public Health and Marine-Hospital Service show that these animals are the enzootic hosts of plague in America; in other words, they keep *B. pestis* alive until a favorable opportunity arrives for a human outbreak.

Methods for the control of the present situation should include the following measures:

1. The prevention of spread from rural to urban rodents by limiting the chances of contact and interchange of ectoparasites between the two. This suggests (a) the maintenance of squirrel-free zones around the centers of population; (b) prohibiting the marketing or traffic in rodents; (c) general rat destruction in the cities.

2. The prevention of a wider spread among rural rodents and the ultimate invasion of the eastern states by such means as the following: (a) destruction of known enzootic foci in the various counties; (b) general rodent extermination throughout California and the near-by states.

* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

This work should be continued where now in operation and inaugurated at once throughout the United States, and made a continuous, systematic measure. It should include the adoption of building ordinances, garbage regulations and systematic extermination in all cities but more especially in the sea-ports. There should be instituted without delay, in all cities, a system of collection and examination of rats so that an epizootic could be detected in time to apply preventive measures before the occurrence of human cases.

Your committee desires to commend the action of certain county supervisors in California for the energy displayed and wisdom shown in undertaking general rodent extermination at this time. It is an example that might well be followed by the health boards and other officials of the western states.

RUPERT BLUE, M.D., Chairman, San Francisco.
ELMER E. HEG, M.D., Seattle, Wash.
WILLIAM F. SNOW, M.D., Sacramento, Cal.

METHODS FOR THE CONTROL OF PLAGUE WITH SPECIAL REFERENCE TO ADMINISTRATIVE DETAILS

ARGUMENT SUPPORTING THE COMMITTEE'S REPORT *

RUPERT BLUE, M.D.
Surgeon Public Health and Marine-Hospital Service
SAN FRANCISCO

It would obviously be impossible in a brief paper to discuss the entire problem of plague control, but the general principles may be illustrated by a review of the measures that proved of value in the San Francisco campaign. A consideration of the methods for combating the further advances of the disease in this country is of special interest and should not be omitted from to-day's program.

There are some special considerations to be borne in mind in regard to this disease. Bubonic plague is primarily, and *par excellence*, a disease of the lower animals, human cases being mere accidents in the progress of an epizootic, and produced in most instances through the bites of infected fleas. There are other channels by which man may receive infection, such as inhalation and ingestion, but with these we are not concerned for the present inquiry into the rôle which animals have played in connection with the spread of plague showing that epidemics among men are invariably dependent on epizootics among animals.

The principal offenders of this zoologic group in California are the families *Sciuridæ* and *Muridæ*. Ground squirrels (*Citellus, Spermophilus*), tree squirrels (*Sciurus*) and marmots (*Arctomys*) compose the former, while of the latter there are numerous genera in this country, such as the domesticated rats (*Mus*) and the wild wood-rats (*Neotoma*) of the western, middle and southern states. A knowledge of the life-history of these animals is essential if the sanitarian would keep abreast of the times in all that pertains to his professional duties.

It can be laid down as a principle that measures directed against persons and things other than rodents will not check an epidemic of *bubonic* plague. In all recent epidemics much valuable time has been devoted to the enforced isolation of infected persons, the inoculation of those exposed to the disease, and the disinfection of infected houses, without adequate returns for the labor expended. These procedures, however, are efficient and can be relied on to stay an outbreak of *pneumonic* plague. Recent experiences in Harbin, Manchuria, show that such measures had an immediate effect in reducing the morbidity and finally in eradicating all traces of the epidemic.

Let it be understood, however, that I do not undervalue the importance of isolation and disinfection in anti-plague work. They should be enforced as auxiliary measures, and because of the fact that a bubonic case may become secondarily pneumonic and highly infectious and contagious.

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

MEASURES FOR COMBATING PLAGUE IN CENTERS OF POPULATION

The first requisite is a special plague organization having no duties other than those for which it is called into service. This should be placed under the direction of an expert sanitarian who, preferably, should have no local or political affiliations in the infected city.

For the convenience of administration the city should be divided into districts. Each district should have an experienced medical officer at its head, a sufficient number of sanitary inspectors, laborers and all necessary equipment for the expeditious handling of the work. A rapid sanitary survey should be made of each district, taking note of cases of sickness, insanitary conditions, rat mortality and prevalence, and the method of disposal of garbage. Daily reports of this work should be made to the central headquarters.

An indispensable adjunct of such an organization is the bacteriologic laboratory where all diagnoses should be verified, by appropriate means, and to which all rats and pathologic specimens should be sent for examination. A systematic bacteriologic examination of rats collected from all sections of the city should be carried out. Certain entomologic studies, more particularly in reference to the *Siphonaptera*, are also of interest.

Another important consideration—one most necessary in America—is legislation drafted especially to meet the extraordinary conditions existing in a plague-infected community. Epidemic outbreaks are of rare occurrence in this country, and, as a rule, no provision has been made in our laws, either state or municipal, for grave emergencies of this class. It will be necessary at the outset to draft a sanitary law, present it to the municipal council and request immediate action thereon.

If immediate and satisfactory legislation is secured, there is still another serious obstacle to be met, namely, the opposition of the people. This is always present, in some degree, in all commercial centers. If business has been seriously disturbed by the occurrence of panics, the local feeling may assume a very threatening tone. I recall an incident that occurred in the city of New Orleans where, during an epidemic of yellow fever, a physician was arrested and taken before a police justice for fumigating an infected residence.

The foregoing facts are related merely to emphasize the need of legal support and the importance of that other necessary feature of a successful campaign—the education of the public. The platform, press, pulpit and public schools should be utilized to place before the public the dangers of the situation. The story should be told in simple, forceful language in order that it may reach the understanding of all classes of citizens.

In the event that the press is lukewarm or hostile, there is no quicker or more satisfactory way of reaching the masses than through the civic bodies and women's clubs. Without the aid of the Citizen's Health Committee the San Francisco campaign would have dragged miserably at the cost of many valuable lives. No amount of education, however, will do away with the prejudices of some people. This is evidenced by the growing opposition to vaccination. Public education is hard work, and those who attempt it must be content to receive more "kicks than ha' pence." Self-control under the undeserved abuse of a hostile newspaper is, in my opinion, one of the essential qualifications of a good leader.

With such an organization it will be possible to rid a city of plague infection in a short time by the systematic destruction of rats. The most satisfactory method of exterminating them is by the employment of traps and poisons on a large scale. These measures should be supplemented by a simultaneous attack on the rats' food-supply and habitations. All edible refuse, or rat-pabulum, should be collected daily in metal receptacles and burned; the main harboring places should be sought out under wooden floors, in feed stables, granaries and warehouses, and destroyed. If these are made rat-proof, wherever practicable, by concreting the ground areas and side walls, and by screening all apertures near the ground level, rats will be deprived of their breeding-places.

The means above suggested will suffice to keep the rat population of the cities at a safe minimum. In centers where no such precautions are being taken every effort should be made

to prevent the introduction of infected rats or squirrels and the parasites from these.

As to personal prophylaxis, it may be said that haffkinization or immunization has never been tried on a large scale in this country. In view of the brief immunity conferred (six months), and the personal discomfort which at times follows its use, it is not believed that the measure will ever become popular in our western civilization. The advisability of immunization for persons about to enter a plague-stricken city cannot be questioned, and the same applies to persons who are employed in antiplague measures. Yersin and Haffkine vaccines have both been used by us in San Francisco for the latter purpose. Vaccination, however, is not to be recommended as an eradicative measure.

POST-EPIDEMIC MEASURES

Of great importance in this connection is to know exactly when to discontinue the eradicative work. Antiplague operations require enormous financial outlays, and the municipal and state authorities will want to cut down appropriations at the very first indication that the epidemic is under control. What sign or indication, then, should govern our action in this matter?

The disappearance of human plague is not a safe criterion, nor is the failure to find infected rats to be depended on as a safe guide. It is safe to predict that the rat population will return in a short time, and if there is a vestige of the infection left it will light up again when the necessary combination of factors have ben restored.

It can be laid down as a universal standard that a certain amount of the work should be continued almost indefinitely after the last infected rat has been found. As a matter of fact, the enforcement of the building ordinances, and the special garbage regulations, must be made a permanent obligation on the city. These laws make for permanent civic immunity by building the rat out of existence. It will be necessary also to continue the work of rat extermination, on a somewhat smaller scale, by means of traps and poisons. The importance of keeping the rat population down to the minimum at such times, especially in certain threatened districts, cannot be too strongly emphasized.

Of interest in this connection is an examination of the records of the numbers of rats caught by months from September, 1907, to April, 1911, in San Francisco. The maximum catch was reached in the fall and winter of 1907. After that, although more rat catchers were employed, and a greater number of traps set daily, the catch diminished until a fixed monthly rate (index) was established. This indicates clearly if it indicates anything that a rat population can be controlled to a certain extent by appropriate means. Rat-proofing, however, is the most important single measure in the control of plague. The city which demands of its builders the rat-proofing of all buildings with concrete is insuring itself against a disastrous outbreak at some future day.

PLAGUE AS IT AFFECTS RURAL SANITATION IN CALIFORNIA

On the discovery of the existence of plague infection among the ground squirrels (*Citellus beecheyi*) of Contra Costa County, Cal., in the fall of 1908, it was realized at once that a serious feature had been added to the plague situation on the Pacific Coast. The investigations which were made then, and which have been carried to completion in the past two years, have confirmed that opinion. In view of the threatening possibilities, as above outlined, the surgeon-general authorized an ample allotment of the public health fund for the work.

The Pacific states, according to Merriam of the Geological Survey, are overrun with this and allied species of rodents, their ranges being continuous throughout the central and eastern portions of California. All states in which rodents are permitted to thrive unmolested should be regarded as infectible territory. The collection and bacteriologic examination of squirrels received from thirty-six counties showed that the infection was widespread.

It was long held by bacteriologists that the continued prevalence of plague in a locality (endemic) was due to the saprophytic power of the organism (*B. pestis*) which enabled it to live for long periods in soil and other inert material. The work of the Indian Plague Commission (1905), and other observers, directed the attention of the scientific world to a living intermediary (the rat) and this cleared up what had been a mystery for centuries. The finding of epizootic plague among the California ground squirrels accounts for the endemicity of the disease in this country.

Prevention of Spread from Rural to Urban Rodents.—The epizootic at present is limited to the former and should be eradicated before reinfection of the latter takes place. This is to be accomplished by carrying out the following measures:

A. Prevention of communication and the interchange of ectoparasites between the two by the creation and maintenance of rodent-free zones around the centers of population. This has been done at federal expense for the cities of San Francisco, Oakland, Alameda, Berkeley and Richmond.

B. Prohibition of transportation or traffic in rodents from one section to another by the application of state and municipal regulations. The California State Board of Health issued regulations against this practice as early as 1908.

Prevention of a Further Spread Among Rural Rodents.—This measure will afford protection to the adjacent states, Nevada, Oregon, Arizona and the Republic of Mexico which contain extensive infectible areas. Such measures should include the following:

A. Destruction of known enzootic foci. Extensive and valuable work of this character is being carried out under the direction of this Service in the ten infected counties.

B. General rodent destruction. This is to be taken up and carried on systematically and continuously in broad zones around the present infected areas, the idea being to limit the advance by breaking the chain, and to reduce the number of carriers (susceptible animals) so that if infection were introduced no wide-spread dissemination could ensue. It is an enterprise of great magnitude, as to cost and time, and can only be successfully managed by the adoption of a cooperative plan which must have the support of the individual farmers and county officials.

General extermination should be instituted as a systematic and continuous prophylactic measures in all Pacific and Mississippi Valley states. Interstate regulations should be so formulated as to prevent traffic in rodents from one to another except for scientific purposes. If not prohibited, it should be regulated and subjected to inspection under the most rigid precautions.

THE PREVENTION OF SPREAD BEYOND THE SEAS

Plague follows almost exclusively the lines of maritime commerce, and with but few exceptions the incidence of the disease is limited to the coast. The infection is conveyed to the shore, as a rule, by rats from infected ports, and the resulting rat mortality occurs first on the water front. As regards the source of rat supply, other than the natural local increase, it can be definitely stated that many rats come ashore from vessels engaged in the foreign and domestic trades.

Port regulations with regard to rat-guards (funnels) on hawsers and lines, as well as to fenders and gang planks are seldom effective. The funnels are generally too small, and not infrequently they are carelessly placed on mooring lines. It may be inferred from the foregoing that additional precautions should be taken to guard against rat infestations from abroad. This is undoubtedly necessary with regard to vessels coming from infected ports.

So important is this feature in the system of control herein advocated that mention should be made of the classification of ships as laid down by the Paris convention (1903), especially as it relates to the *indemne* vessel. Have events justified the exemption of vessels coming from plague-infected ports from the process of elimination of rats prior to entry? In answer to this question it can be stated that there are many quarantine officers in this country who believe that the *indemne* vessel should not be admitted to free pratique without first undergoing fumigation. The application of this measure is particularly indicated in instances in which vessels have embarked steerage passengers and cargo at an infected port. Exceptions may be made of vessels which have com-

plied with all the quarantine laws and regulations of the United States for foreign ports.

Pandemics can be dealt with only through international regulations as follows:

1. The periodical fumigation of vessels to kill rats.
2. A medical surveillance of outgoing passenger and freight traffic at badly infected ports.
3. The appointment of an international commission to investigate and determine the location and extent of the endemic or enzootic centers, with authority to formulate plans for their eradication.
4. International notification of both epidemic and epizootic prevalence.

ABSTRACT OF DISCUSSION

ON PAPER AND REPORT OF DRS. BLUE, SNOW AND HEG

DR. GEORGE E. ABBOTT, Pasadena, Cal.: In what I am about to say I do not wish to be considered as being opposed to the extermination of squirrels; on the contrary, I am most decidedly in favor of it. At the same time, however, I fear our present policy is prohibitory of success. I understand that there is an ordinance about to be enforced whereby the owners of land are to be made responsible for any rodents found on their premises. The extermination of even a small percentage of squirrels would, in many places, cost from five to ten times the value of the land per acre. Moreover, in many instances, the government land is the greatest sinner. This measure is manifestly unfair to the farmer. The most that can be asked the farmer is to do the work, while the state or government provides the material. Moreover, it is the towns-people who are crying for protection against the plague and its contagion. Let the cities, state and government furnish the weapons of war and then demand of the farmer the labor of exterminating the rodents, which will, at one and the same time, protect the people and the crops from destruction. My belief is that such measures would not have to be enforced, but would be gladly adopted by all.

DR. J. W. KERR, Washington, D. C.: As a colleague of Dr. Blue I am naturally very much interested in his work. It is not my intention, however, to discuss it, but rather to mention briefly some measures that have been taken by the federal government for the prevention of the introduction of plague from abroad.

The Quarantine Act of Feb. 15, 1893, authorizes the President to detail officers of the Public Health and Marine-Hospital Service for duty at infected ports abroad for the purpose of supervising American shipping to prevent the introduction of exotic diseases. It was my privilege, after the beginning of the outbreak of plague in San Francisco in 1900, to be detailed to the port of Hongkong, China. At that time the disease was very prevalent there, and had been prevailing for about five or six years. The problem of the protection of American shipping was, accordingly, a difficult one, particularly on account of the close proximity of Manila to the port of Hongkong. Cognizance had to be taken of the passengers, cargoes and crews of all ships. Every passenger leaving the port of Hongkong (and this is true of other infected ports in the Orient) was required to undergo inspection prior to embarkation. Foreign products, and particularly Chinese food-products, were inspected, not only just prior to loading, but where the food was stored, and also in the localities from which they came. As a result it was found that a very small amount of this kind of food was at all liable to carry plague infection, and probably never had carried it.

The most important means of protection against plague is preventing rats from gaining access to the ships while in harbor. It was the practice to disinfect ships periodically to kill rats; and this, in the case of trans-Pacific ships, was done every third voyage. By this means the rat population aboard ships was kept at a low ebb and greater protection was afforded in that way than any other. Since that time there has been an international agreement, adhered to by a number of foreign countries, as well as our own, for the prevention of the spread of plague, cholera and yellow fever in international commerce.

Dr. Blue referred to the necessity of the periodical disinfection of ships to free them from rodents. This has been brought to the attention of the permanent international committee, which has control of the International Office of Hygiene established at Paris in accordance with the International Sanitary Treaty of 1903. Furthermore, our quarantine regulations require the periodical disinfection of ships to kill rats at least once in six months; that is, any ship that has within a recent time been in an infected port. Dr. Blue referred to indemne ships as being subject to disinfection. An indemne ship is one which, although coming from an infected port, has had neither death nor case aboard, and these ships are practically always disinfected on arrival in our ports to kill rats.

With reference to the methods in a city to eradicate plague, I want to mention one measure that was adopted in Hongkong, the depopulation of infected areas. This was practically the only way that some local outbreaks there could be stopped.

A method of determining the extent of infected areas has been outlined by Dr. Heiser, Director of Health of the Philippine Islands, by which his rat-catchers catch rats along radiating lines toward the known infected center. These rats are examined in the laboratory and the circumference of the infected area is thus outlined. Since the above system was adopted plague has disappeared from Manila, in which city the disease has not prevailed for several years.

DR. ELMER E. HEG, Seattle, Wash.: The fact that plague has prevailed only on the Pacific Coast in this country has had a tendency to cause our eastern brothers to think that this is a western subject only. If they would stop to think that London and Edinburgh and European ports have been infected, they would realize that we have a problem that should be studied by the eastern men interested in public health as well as by the western men; and it is only when they get an epidemic, or get a case of plague, that they will realize what they are up against. When they first had the plague in California, I was interested, but not materially so. I was interested as our eastern men are now. It was when we got the plague in Seattle that it became a different subject, and I have realized, for the past four years, what it is to have plague in one's own state. The committee, of which I am one, recommended that the extermination of rodents be continued indefinitely. This seems, perhaps, rather a strange, or rather a rigorous, recommendation. The fact is that the next to the last plague rat found in Seattle was found in September, 1908; and although from four or five hundred to a thousand rats daily were examined from that time on, no more plague rats were found until February, 1910, a year and a half after the last previous plague rat was caught. Now, whether this was a hold-over or whether it was a new infection, I cannot tell you. If it was a new infection, it must have come from somewhere else; and other cities are just as apt to get it as we were. We certainly had carefully examined the city for rats; and yet one appeared after an interval of one and one-half years.

The cities should protect themselves by their building ordinances and by a systematic examination of rats. Not only will it help them in controlling plague, but the commercial benefits will pay. The losses to merchants through rats are many times more than the cost of extermination or protection. Since we started in Seattle to exterminate rats we have gotten the different merchants interested and they keep it up right along, in conjunction with the city. It pays them to do it. And when you can appeal to a merchant and show him that his loss in merchandise is greater through the rat than the cost of keeping them out he becomes a sanitary agent; but you have got to show him that there is money in it.

One of the speakers mentioned the fact that the farmers would eradicate squirrels for the loss of crops but not to protect the cities. That illustrates the exact point. Only those who are interested in public health are willing to do anything unless there is a dollar in it; but the eradication of rats, and of ground-squirrels also, is certainly a commercial proposition, just as well as a sanitary proposition.

DR. N. K. FOSTER, Oakland, Cal.: For a good many years Dr. Blue has stood by California and fought that disease pretty nearly to a finish; and we fully appreciate him in that part of the state. If our editors, and some of our public men, had been educated in the ordinary principles of truth,

we would not have had the trouble in California that we did. In the first place, educate the people—and the children, beginning at the bottom—so that they will understand that plague is simply a disease that can be handled just as well as any other; that there is no especial danger in it if we handle it scientifically; teach them to meet the fact, and if plague breaks out that we are going to eradicate it, and that they have got to help to do it; but teach the children in the primary grades, in the grammar grades, and in the high-school grades, and up into the universities, just what it is and how to handle it. In California we are adopting at the present time a new book on physiology, hygiene and sanitation, and we are trying to get, and I think will get, a chapter on plague in that book. I would really advise, in conjunction with Dr. Heg, that you eastern men and woman take up this question and study it carefully; for you cannot tell how quickly it will come to your doors. I have believed ever since it broke out here, that some time you will have it. I hope you will not, for, as Dr. Heg says, it is a very different thing when you get it at your own door and have to fight it, from when it is away off in California or Washington. The next thing that I would emphasize is to have every one rat-proof his own building. It can be cheaply done. Simply have the basement of your house of other building spread with concrete so that the rat cannot get through. If he gets into your house, let it be through the same opening that you go and you will be practically safe.

REPORT OF COMMITTEE ON METHODS FOR THE CONTROL OF EPIDEMIC POLIOMYELITIS *

Within the last two years the attention of the medical profession has been strongly directed to the prevention of poliomyelitis, first, because of its increasing prevalence in epidemic form and the serious nature of its after-effects; and, secondly, because it has been shown to be an infectious disease due to a filterable virus, probably a specific microorganism, from which the inference has been very naturally drawn that it is necessarily preventable.

As regards its prevalence, there can be no doubt that it has very greatly increased in recent years, especially in the United States. During the year 1909 not less than 2,500 cases were reported as occurring in epidemics in the United States. During that year 539 deaths, indicating probably not less than 5,000 cases, were reported from the registration area comprising 55 per cent. of the population of the United States.

For the year 1910, 5,093 cases and 825 deaths have been reported to the Surgeon-General of the Public Health and Marine-Hospital Service from thirty-one states, the District of Columbia and Hawaii. It can hardly be doubted that these statistics give a very imperfect and much too low estimate of the prevalence of the disease. Granting, however, a prevalence several times as great as reported, a mortality of 5 to 20 per cent., and permanent disability in perhaps 75 per cent. of the survivors, still the magnitude of the public health problem involved has undoubtedly been greatly exaggerated. Compared with the ravages of tuberculosis, pneumonia, typhoid fever, infantile diarrhea, scarlet fever, diphtheria, measles, whooping-cough, and even of such a comparatively rare disease as cerebrospinal fever, the havoc wrought by poliomyelitis on the country at large, while not negligible, is yet very small.

As regards its preventability also there has seemingly been some hasty and unwarranted optimism. Inferences drawn from laboratory studies of experimental poliomyelitis have been applied to the disease as occurring in nature with too little consideration of the vast differences between laboratory and natural conditions. While laboratory experiments have, it is true, furnished indications not only that poliomyelitis is preventable, but also to some extent of the methods by which its prevention may be accomplished, the final proof of preventability, namely, demonstrable control of the disease, is still lacking.

In the absence of data as to the actual efficacy of preventive measures, the present report must necessarily be drawn up on theoretical grounds, from data which are, in some essential respects, deficient. The facts needed for the deduction of effective preventive measures for an infectious disease include the following or a close approximation to them:

1. A knowledge of the specific causative agent—its habitat, the conditions necessary for its life and propagation, and the agencies by which it may be destroyed.

2. A knowledge of the means by which the causative agent may be and most commonly is transmitted from its habitat to healthy persons, and the avenue by which it gains entrance to the human body.

3. A knowledge of the conditions which constitute susceptibility to infection by the agent when it has been introduced into the body.

The knowledge of these facts may be effectually applied to the prevention of the disease, provided that the causative agent can be controlled or destroyed in some part of its life history, or that immunity to the infection can be established by measures of practical application.

As a preliminary to the presentation of any recommendations regarding methods for the control of poliomyelitis, it seems necessary to summarize as briefly as possible the essential facts known concerning its etiology and dissemination.

I. EXPERIMENTAL STUDIES

1. The Specific Causative Agent or Virus.—The successful transmission of poliomyelitis from man to monkeys, and from monkey to monkey, has demonstrated that the disease is due to a specific virus which passes readily through a bacteria-proof filter. Several observers have reported the demonstration of minute bodies in the filtrate from emulsions of the cord of infected monkeys. Much larger bodies have been found by the Pennsylvania health authorities in the blood of infected persons and monkeys. It has not, however, been established that the bodies demonstrated either in the blood or in the filtrates are the causative organisms.

Although the virus has probably been cultivated on artificial media, such cultures offer no practical aid to its isolation or identification. Its recognition, therefore, depends solely on the characteristic effects produced in animals.

2. Habitat of the Virus.—The virus of poliomyelitis has been shown to be present in the following locations:

A. In man: In the spinal cord and bulb (and possibly in the spleen, blood and cerebrospinal fluid) of persons who have died during the acute stage of the infection.

B. In lower animals: In monkeys experimentally infected the virus has been found in the brain, spinal cord; mesenteric, axillary and salivary glands, and in the nasal and pharyngeal mucous membrane. It has been found in the blood and cerebrospinal fluid only in the early stages of infection, and apparently in great dilution. In the nasopharyngeal mucous membrane it has been found to persist for as long as five months after the acute stage of the infection.

Several observers claim to have reproduced the disease in rabbits by inoculation with human virus and to have propagated the infection thence to other rabbits and to monkeys. Some doubt, however, remains concerning the transmission of poliomyelitis to rabbits. The majority of observers have found them insusceptible, and those who have reported success in transmitting the disease have failed to find characteristic histologic lesions. With the exception of these somewhat doubtful demonstrations in rabbits, the virus has not been found in lower animals other than experimentally infected monkeys. Inoculations of other varieties of laboratory and domestic animals have given only negative results. None of these animals (guinea-pigs, rats, mice, dogs, cats, sheep, goats, hogs, horses, chickens and pigeons) has so far been found susceptible to the disease. Also, pathologic and experimental studies on mammals and fowls suffering from paralysis similar to human poliomyelitis have failed to establish any etiologic relation between such diseases and poliomyelitis.

C. Outside the animal body: The virus has never been found outside the animal body. Its demonstration in the nasopharyngeal mucous membrane and salivary glands of experimentally infected monkeys has led to the inference that the nasal and buccal secretions contain the virus. However, experiments made to demonstrate the infectiveness of these secretions, as well as of the urine and feces of infected persons and monkeys, have been uniformly unsuccessful.

3. Viability of the Virus.—Studies on viability have been necessarily confined to animal tissues containing the virus. Under these conditions the virus has been found easily destroyed by heat (45 to 50 C.) and by comparatively weak disinfectants. It has been found resistant to low temperatures, desiccation and the action of glycerin.

4. Vehicles of Transmission and Avenues of Infection.—Since the virus has been found only in the tissues of naturally infected persons and experimentally infected animals (of a

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

species which cannot be considered of importance in its natural transmission), the carriers of the infection outside the human body can only be inferred from the biology of the virus and the epidemiology of the disease. Laboratory studies so far indicate (although they do not prove) that the virus has no natural animal host except man, and that its viability outside the human body is short. To that extent they indicate direct transmission from person to person.

Possible avenues of infection experimentally demonstrated are numerous. Monkeys may be infected by inoculation into the brain, cerebrospinal canal, peripheral nerves, vascular system, peritoneal cavity, anterior chamber of the eye, or subcutaneous tissue. They have been infected through the digestive tract by introducing massive doses of the virus into the stomach or intestines, peristalsis being retarded by the administration of opium. Through the respiratory tract infection has been caused by rubbing the virus into the scarified nasal mucous membrane, and in one instance through the intact nasopharyngeal mucosa.

5. Susceptibility.—Laboratory experiments have thrown practically no light on the conditions determining natural susceptibility or immunity to the infection. Monkeys are almost uniformly susceptible to artificial infection by inoculation. They have not, however, been known to contract the disease spontaneously, although in several laboratories considerable numbers of them have been kept in contact with artificially infected monkeys. Acquired immunity, both active and passive, has been shown; but no practical means of immunizing persons has been developed. The susceptibility of monkeys may be diminished by the administration of hexamethylenamin, and it is reasonable to infer that this may apply also to human beings.

II. EPIDEMIOLOGIC STUDIES

Satisfactory epidemiologic data from which to draw inferences as to the transmission of poliomyelitis are scant. Such data are lacking, both in extensiveness, failing to give an accurate idea of the prevalence and distribution of endemic and epidemic cases, and also in accuracy of detail, failing to give full enough information concerning the cases studied.

The following important facts are, however, pretty well established:

1. Geographic Distribution.—Epidemics have occurred over a very wide, not definitely limited area, including all sections of the United States, various parts of Canada and the West Indies, most if not all the European countries, Australia and Micronesia. Sporadic cases are of even wider distribution.

The distribution of epidemic areas is quite peculiar, showing no constant definite relation to previous epidemic foci, to density of population or to the amount of communication by travel. In general, it is true that densely populated cities suffer relatively less than rural districts. Epidemics have sometimes appeared to be confined to certain water-courses, and investigations in Pennsylvania seem to show a greater prevalence of the disease over old formations, poorly drained, than over gravel formations, but no constant relation has been shown to exist between topographic or telluric conditions and the occurrence of epidemics.

2. Seasonal Prevalence.—In the northern hemisphere the disease is markedly more prevalent during the summer and fall months; in the southern hemisphere during the winter and spring. In general, hot, dry weather seems to be one of the conditions most favorable for its spread.

3. Incidence of Disease Among Population.—The total attack-rate in the population of any considerable area is always small. It is seldom that more than one to ten per thousand are attacked, and even this latter rate is not often reached in a population of more than a few thousand. The greatest incidence, both actual and relative, is in the first decade of life, usually from the second to the fifth year. The proportion of adults to children attacked varies greatly, however, in different epidemics. More males than females are attacked. Such statistics as are available indicate that during the first decade of life males and females are attacked at approximately the same rate, but that in later life males are attacked much more frequently.

4. Origin and Means of Dissemination of Epidemics.—None of the epidemiologic investigations undertaken can be said to have shown the origin and means of dissemination of epidemics. Practically all observers have failed to find any relation between the spread of the disease and certain factors commonly operative in the dissemination of many infectious diseases, namely, food and water-supplies, crowding and insanitary environment.

Regarding other factors, findings have been various and opinions divergent.

A. Contagiousness.—Direct Transmission from Person to Person: The most comprehensive and in many respects most reliable information on this point is derived from a study of the attack-rate in persons known to have been in intimate contact with recognized acute cases. A study of multiple cases in families, institutions and schools shows that only a small proportion of persons known to have been in such contact have subsequently developed the disease. Therefore, if we limit recognized cases to persons with actual paralysis, it must be admitted that the disease is usually very slightly contagious as compared with scarlet fever, measles, diphtheria or typhoid fever.

On the other hand, studies of small outbreaks have not infrequently shown indications of direct transmission, and occasionally an apparently high degree of contagion. This is especially true in instances in which abortive cases have been included in the epidemiologic studies. Studies of this kind are, however, too few to furnish a basis for general conclusions and to eliminate the error introduced by personal bias in the inclusion of abortive cases.

For the present it may be concluded that few clinically recognized cases can be traced to contact with previous clinically recognized cases. If the disease is transmitted by direct contact, paralytic cases must be a small factor in its dissemination.

Factors of possibly greater importance are:

1. Abortive and Clinically Unrecognized Cases: The existence of such cases, often so mild as to be ambulant, has been inferred on clinical evidence and confirmed by the demonstration of apparently specific microbicidal properties in the blood-serum of a number of suspected cases.

2. Carriers: The experiments of Osgood and Lucas, and of Flexner and Clark, demonstrating that the virus may persist in the nasal mucous membrane of artificially infected monkeys for several weeks—in one instance as long as five months—indicate the probable existence of human chronic (convalescent) carriers. The existence of healthy carriers—persons in whose bodies the virus multiplies without causing infection—can only be surmised at present. Numerous cases are cited in which infection has apparently been conveyed by a healthy intermediate person. The epidemiology of cerebrospinal meningitis has been interpreted as offering an analogy to this method of transmission, furnishing an example of a disease spread by healthy carriers, whose number has in many instances appeared to be greater than the number of persons actually suffering from the disease.

The presumption of healthy carriers, namely, persons harboring the germs but not suffering from the infection, carries with it as a necessary corollary individual variations in susceptibility. The existence of abortive cases, while not proving this assumption, tends to confirm it. The uneven distribution of the disease in different age groups and between males and females, and also its seasonal distribution, suggest variations in susceptibility as their explanation. To offer variations in susceptibility as an explanation of the irregular incidence of the disease is, however, begging the question unless some satisfactory demonstration of such variations can be offered at the same time. It is reasoning in a circle to advance a variable factor of susceptibility in explanation of the irregular incidence of a disease and then to advance the irregular incidence as a proof of variable susceptibility. Satisfactory proof that susceptibility to poliomyelitis varies to any considerable extent is lacking. While, therefore, it is reasonable to suppose that the element of individual susceptibility is a factor in the epidemiology of this disease, its importance is as yet undetermined.

The digestive tract as the avenue of infection is suggested by several facts, namely, the seasonal prevalence, the greater incidence in childhood and the early and almost constant occurrence of gastro-intestinal symptoms in the acute stage.

On the theory of poliomyelitis being directly transmissible from person to person, it is difficult to offer a satisfactory explanation of its uneven distribution in relation to density of population and travel.

B. Theories explaining the dissemination of poliomyelitis by agencies other than direct transmission from person to person are worthy of careful consideration. Of these theories, the one which appears to the committee to have the best basis of fact assumes that the disease is transmitted from lower animals to man. This theory is supported by the occurrence among domestic animals (horses, dogs, cats, sheep, hogs, cattle and poultry) of paralytic diseases clinically resembling acute anterior poliomyelitis. Experimental studies have so far

failed to show that such diseases are in any way etiologically allied to the human disease and have, on the other hand, shown that these animals are insusceptible to inoculation with the virus derived from human cases.

The distribution of paralytic diseases in animals in relation to human poliomyelitis has not been determined with all desirable accuracy, and it is therefore impossible to state at present how closely it corresponds to the distribution of human poliomyelitis.

It has been suggested that the disease is conveyed from horses to man by dust from barnyards and streets. The evidence in favor of this theory is as follows:

1. The greater frequency of the disease in the country and in small villages than in more densely populated cities where, as a rule, streets are better paved and less dusty.

2. Its greatest prevalence during the season when dust is generally most prevalent.

3. Its greatest prevalence among children at the age when they commonly play in the dust, and its greater prevalence among adult males, who are relatively more out of doors than in females who are more intimately exposed to contact with the sick.

4. The distribution of cases in several towns on the more dusty streets; and the cessation of several epidemics after sprinkling the streets.

The probability of some insect being a factor in the transmission of poliomyelitis has been suggested by several epidemiologic observations, namely:

1. A seasonal prevalence corresponding to the maximum prevalence and activity of many varieties of insects.

2. The irregular distribution of epidemics. Outbreaks have occurred simultaneously or consecutively in localities separated by wide, often densely populated and much-traveled areas in which the disease has not been epidemic.

3. The relatively greater prevalence of the disease in rural communities and in small towns than in large densely populated cities, where the opportunities for the spread of diseases transmissible directly from person to person are generally greater.

4. The absence, in epidemic areas, of any constant and obvious relation between cases in regard to proximity, intercommunication or exposure to readily discernible common sources of infection.

Such peculiarities in the epidemiology of poliomyelitis have been thought by some to be most readily explained by the assumption that some insect, showing corresponding peculiarities in its distribution and activities is a necessary factor in the spread of the disease. Dr. Conn of the Connecticut State Board of Health has recently suggested the flea as a probable carrier of the infection. It is doubtful, however, whether all the facts known concerning the biology of the flea are in accord with this hypothesis.

III. RECOMMENDATIONS

The committee recommends, as the most important step toward the prevention of poliomyelitis, further studies of its means of transmission and of the factors of immunity.

While it is hoped that experimental studies on the transmission of the disease will be continued and will be as productive of results in the future as in the past, neither recommendations nor prophecies in this regard come within the scope of this report.

The collection of data which it is believed will greatly enlighten the question, and the collection of which is quite practicable, is recommended as follows:

1. Prevalence.—It is obviously of the greatest epidemiologic importance to determine as accurately as possible the prevalence and distribution of the disease. This can be accomplished most efficiently and thoroughly through state and municipal health organizations, by requiring that poliomyelitis be reported as an infectious disease. In the absence of any definite diagnostic criterion except paralysis, reports could, for the present, be required of paralytic cases only. It is desirable, moreover, that morbidity and mortality statistics should, for the present, be based on definitely diagnosed paralytic cases. Abortive cases should be included wherever practicable in the statistics of the disease, but should be designated as such and tabulated separately.

2. Diagnosis.—Further and more detailed studies of the symptomatology and of the blood and cerebrospinal fluid of patients in the preparalytic stage and of suspected abortive cases are needed to establish a more definite standard of diagnosis. For collective studies of this kind local medical societies have opportunities which are rarely available to public health organizations.

3. Epidemiology.—In connection with the collection of morbidity reports, state and municipal health authorities can, by obtaining more detailed reports, collect data of considerable epidemiologic importance. Valuable studies based on data so collected have already been made by several state and city health organizations and by medical societies. The value of the data so collected would be much increased by greater uniformity in the methods of collecting them. The employment of a uniform blank for this purpose is recommended.

It is necessary, however, for a better understanding of the transmission of the disease, that such studies be supplemented by more detailed information, based on a systematic epidemiologic study of individual cases by competent epidemiologists. Studies of this nature have already been undertaken in several states and have resulted in the collection of the most thorough, instructive and satisfactory data so far available.

The objects of an intensive study should be to determine as accurately as possible:

1. Clinical types with special reference to early diagnosis with the aid of laboratory methods.

2. The actual prevalence of the disease in each community studied. This would necessitate an investigation not only of definite paralytic cases, but also of suspected abortive cases.

3. The distribution of cases and their relation to each other and to possible common causes. Among the etiologic factors other than direct contact which deserve especial study are: the prevalence of paralytic diseases among animals; meteorologic conditions, especially the prevalence of dust; immediate environmental conditions with special reference to crowding, sewage disposal and the presence of insects; food and water-supplies; the prevalence of other diseases.

Pending the results of further investigations, the committee recommends the following preventive measures based on the assumption that the disease is directly transmissible from person to person.

1. Isolation and screening of all patients known to have or suspected of having the disease. Since a positive diagnosis can be made only on the appearance of paralysis, which usually develops one to six days after the onset of febrile symptoms, and in abortive cases does not appear at all, isolation, to offer any hope of effectiveness, must be instituted on suspicion. Three weeks from onset is suggested as the period of isolation, although only a surmise can be made on this point.[1]

2. Disinfection of all discharges from patients, and of all articles used by them and their attendants.

3. Fumigation of the premises with formaldehyd on release from isolation.[2]

4. A quarantine of persons in contact with patients does not seem at present justifiable. It is recommended, however, that members of patients' families be excluded from schools during the period of the patients' isolation and during the possible incubation period of a new case; that is, for three weeks following the end of the last exposure to the (presumptively) contagious person.

5. For the protection of persons presumably exposed to infection, namely, those in contact with the sick and in communities where the disease is epidemic, the daily administration of hexamethylenamin seems to offer some hope of reducing susceptibility. It seems not unreasonable to suppose that susceptibility, especially of young children, may perhaps be further modified by preserving the gastro-intestinal tract in normal condition, by avoiding dietetic errors, by prompt attention to slight gastro-intestinal disturbances and by the avoidance of overexertion in hot weather. Rest, which seems to be an important therapeutic measure, may quite possibly have some prophylactic value.

The committee is unable to express any great confidence in the efficacy of the measures above outlined. Even granting that the disease is transmitted directly from person to person by infectious secretions, the difficulties in the way of its prevention are great.

It is often impossible to recognize even severe paralytic cases before the onset of paralysis, which may be several days after the onset of the disease. It is still more often impossible to recognize and isolate abortive cases, whose number may reasonably be supposed to be considerable. Chronic convalescent carriers, whose existence is probable, and healthy carriers, whose existence is not improbable, are not recognizable and hence cannot be controlled.

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1. In the opinion of one member of the committee (H. W. H.) a period of two weeks is sufficient to meet the situation as we understand it.

2. In the opinion of one member of the committee (H. W. H.) terminal fumigation is unnecessary. In the present status of our knowledge concurrent disinfection, i. e., disinfection of the discharges of the nose and mouth, should be rigidly carried out.

Moreover, the disease is already wide-spread throughout the country, and experience with other infectious diseases has shown the difficulties which beset the eradication of a wide-spread endemic infectious disease by quarantine alone. Finally, it will be difficult to estimate the efficacy of preventive measures, since it is impossible to foretell the extent to which the disease is likely to spread in any community without the application of restrictive measures.

If, however, the above measures actually prevent even a small proportion of cases they are justified.

W. H. FROST, M.D., D.P.H.,
U. S. Public Health and Marine-Hospital Service, Washington, D. C.,
H. W. HILL, M.D.,
Minnesota State Board of Health, Minneapolis,
SAMUEL G. DIXON, M.D.,
Pennsylvania State Department of Health, Harrisburg,
Committee.

REPORT OF COMMITTEE ON CONTROL OF CONTAGION THROUGH PHYSICIANS AND NURSES *

The subject, "Control of Contagion Through Doctors and Nurses," might imply that these are the only agencies for combating contagious disease, which is not quite true, though health boards must primarily depend on these agencies for preventive work. Through their efforts and teaching many other agencies, such as clubs, church organizations, social centers, fraternal bodies, principals and teachers in schools, and parents, are made to cooperate in preventing the spread of contagion. Doctors and nurses, however, are the only agencies employed legally and under control of municipal authority.

To control contagion we must first know where contagion exists. It follows that there must be authority to compel physicians, parents and guardians to report to boards of health, all cases of contagious disease when found. This should include suspected cases of contagious diseases—these to be dealt with differently from actual cases as explained further on.

City ordinances should be comprehensive and yet explicit enough to make their enforcement easy. Loosely drawn ordinances invite legal resistance. In the absence of city ordinances, state health laws can be invoked. In the absence of ordinances or state health laws we can proceed under the general police power. Under police powers a board of health can take such measures as are necessary to protect the public health against epidemic diseases and such action will be sustained by public opinion and the courts.

In order to secure reports of contagious diseases, postal cards, on which is indicated the information desired by the department of health, should be furnished free to physicians (Form 1). The acute contagious diseases—small-pox, diphtheria, scarlet fever, measles and whooping-cough—should be reported by telephone and by postal card. Telephoning the report makes it possible to take action twenty-four hours earlier than if the case were reported by mail. The postal card, with the physician's signature, following the telephone report, is necessary for the record of the case.

Other reportable diseases may be reported by card only.

When a case of contagious disease is reported, an acknowledgment of receipt of the report should be sent to the person making the report, on one half of a double postal card (Form 2), the other half of the postal card to be torn off and returned to the department of health when the case is ready for termination.

The name and address of the reported patient are telephoned to the medical health officer in whose territory the case is found. He visits the patient and establishes quarantine. If no adequate quarantine can be established and maintained, the patient should be sent to a hospital for contagious diseases.

In cases of diphtheria, if the attending physician has not taken a culture from the throat, the health officer should take one. If the case proves to be bacteriologically and clinically not diphtheria, the attending physician receives notice from the department of health of the laboratory findings (Form 3), and a postal card enclosed on which he expresses his wish as to the early termination of the case (Postal Card Form 4). The health officer gives immunizing doses of antitoxin to other members of the family if the attending physician has not done so; gives oral instructions to the family and printed instructions as to the management of the case (Circular 1) to prevent the spread of contagion. A printed card of instructions is hung on the door of the patient's room (Circular Card Form 2). The medical health officer endeavors to place the patient in a room apart from other members of the household with a view of preventing other inmates of the house from contracting the disease. A warning card (Placard Form 1) should be placed on the front door, and a milkman's warning card on which are printed instructions to be followed by the milkman (Placard Form 2) is placed on the rear door. The medical health officer fills out a blank quarantine card (Form 5), giving information and instructions as to the quarantine requirements to the quarantine officer who follows him. This card is placed under the right upper corner of the front door warning card and a tack is driven through both. The medical health officer fills out and mails a postal card (Form 8), notifying school principal, Sunday-school superintendent and factories in the neighborhood, giving the location of the case. He then fills out his report blank (Form 9), giving detailed information as to the conditions and requirements of quarantine in the case and mails it to the department of health.

The following day a quarantine officer calls and secures the instruction card which was placed under the front door warning card by the medical health officer. This card informs him what the quarantine requirements are in the case. This officer visits the house daily, or as often as necessary, to see that the inmates are obeying the rules of quarantine. At each visit he fills out and sends to the department of health a report (Form 10). When the patient is well, the attending physician sends to the department his termination card (Postal Card Form 2). The medical health officer is then sent to take cultures from the throat and nose of the patient, and if found positive he waits three days and returns for another culture, and so continues until a culture shows negative, in which case he returns the following day and takes another culture and at the same time takes cultures from the throats of all contacts. If they all prove negative, he fills out blank (Form 11), stating that the premises are ready for disinfection, and mails it to the department. A disinfector is then sent who disinfects and removes the warning placard. The disinfector, after disinfecting the premises, fills out and mails postal card (Form 12) to school, Sunday-school and factories which were previously notified of the case, stating that restrictions placed on the family have been removed.

If a positive culture is found in a diphtheria contact, the quarantine is continued until a negative is obtained. One negative culture is required from contacts and two negative cultures made on two consecutive days are required from the patient.

Scarlet fever is quarantined in the same manner as diphtheria, except that no cultures are taken unless mixed infection is suspected. Quarantine is more prolonged in scarlet fever than in diphtheria. Four to six weeks, and in some cases longer, should be the quarantine period in scarlet fever. The instruction card (Form 13) and circular of information for scarlet fever are similar to that for diphtheria, only differing in some details to meet the requirements of this disease.

Measles cases are placarded and children in the house are kept from school and from visiting other children. No visitors are allowed in the house. The adults, if they have had measles, are allowed to go about their necessary work but are not allowed to go to church or other public gatherings. The period of quarantine should be three weeks or more. A circular of information on measles is given the family (Circular Form 4).

A warning card is posted for whooping-cough. The same rules of quarantine apply in cases of whooping-cough as in measles except the period of quarantine is eight weeks, or until the spasmodic stage has passed.

All cases of chicken-pox should be visited by a diagnostician unless the doctor reporting the case says that the subject has a successful vaccination. No warning card is posted for chicken-pox, but the patient is kept in for two weeks.

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Mumps is important only because it may get started and break up a school. Patients and those exposed should be excluded from school for three weeks. No warning card is posted.

When typhoid fever is reported to the department of health, a medical health officer visits the home from which the case is reported to learn, if possible, the source of the infection, and to instruct the attendants how to destroy typhoid contagion and prevent communicating the disease to others. He inquires into the water, milk and other food-supplies and learns if the patient has been away from home just preceding the attack, and other information required to fill out the report. He fills out report blank 14 and mails it to the department of health. A milkman's warning card (Placard Form 2), previously mentioned, is placed on the rear door and a circular of information on typhoid is given to the family and verbally explained (Circular Form 5). If screening against flies and proper treatment of discharges from patient are not practiced, the patient is ordered to a hospital. At the termination of the case, disinfection with chlorid of lime and formaldehyd is performed when conditions are such as to require it.

In the event of the milk-supply being suspected, a dairy inspector is sent to the farms in the country from which the milkman receives his supply, to look for possible sources of infection. If the source is located on any farm, shipment of milk from that place to the city is prohibited.

When a suspected case of contagious disease is reported, no warning card is posted until a diagnosis is made. The physician reporting has the family take all precautions and makes a second report as soon as the diagnosis is made.

The work in the schools done by the physician and nurse is conducted as follows:

At the beginning of the school term, the school doctor and nurse visit the school and make a rapid inspection to determine if any are seeking admission who show evidence of a contagious disease. This preliminary inspection is conducted in the following manner:

The doctor and nurse visit each schoolroom, stand with their backs to the window and have the pupils file past, exposing to view palms of hands and wrists. With the finger, the pupil pulls down the eyelid, exposing the conjunctiva, opens the mouth and puts out the tongue. Skin diseases, eye diseases and convalescent cases of scarlet fever can in this manner be detected. This preliminary examination is completed in a day or two and the school term is under way with the pupils found to have contagion about them excluded. They are excluded if on inquiry they are found to be coming from a house where a contagious disease exists. From that time on the school physician and nurse visit the school daily. The nurse makes routine daily inspections for evidence of contagious and parasitic diseases and refers all suspicious cases to the school physician for examination.

All pupils absent from school for three or more consecutive days and all suspicious cases found by principal, teachers and nurse are sent to a room to await examination by the school physician before they are allowed to go to their class rooms.

If a case of diphtheria is found in school or if such case was in a class room and is found to have diphtheria the school physician takes cultures from the throats of all pupils in the class of which the sick pupil was a member. If a positive culture is found in any pupil, he is sent home and quarantined as a carrier of diphtheria germs, though there may be no evidence of sickness. A special quarantine placard is used (Placard Form 3) and a circular of information (Circular Form 3) is handed the family.

In Chicago, nine carriers of diphtheria were found in one class room, eleven in another, thirteen in a third, and the highest number found and quarantined was twenty-three in a class of twenty-seven.

In every instance in which an outbreak of diphtheria was found among the school pupils this practice of quarantining the carriers promptly and completely eliminated diphtheria from the school. There was very little opposition to this quarantine. We encountered the most opposition from physicians. With the department circular in their hands the parents of the child generally complied with the requirements of quarantine with little complaint. Complaints against the quarantine were usually the result of the information furnished by the physician called in by the parents. Physicians quite frequently protested against quarantining carriers. The opposition by physicians against this practice has continually grown less and now is quite infrequent.

HEMAN SPALDING, M.D.,
Chief of Bureau of Contagious Diseases, Chicago.
I. D. RAWLINGS, M.D.,
HYMAN COHEN, M.D.,
Assistant Chief, Bureau of Contagious Diseases, Chicago.

REPORT OF COMMITTEE ON METHODS OF CONTROL OF SMALL-POX *

I. CONTROL OF SMALL-POX IN A CITY WITH A MILLION INHABITANTS

HEMAN SPALDING, M.D.
Chief of the Bureau of Contagious Diseases, Chicago Department of Health
CHICAGO

The one agency, vaccination, is sufficient to absolutely prevent small-pox in cities large or small if this remedy is universally and intelligently applied. But there are always those in a community who oppose anything which was not created by themselves. I have never known an antivaccinationist who has had any experience with small-pox. One case in the family of an antivaccinationist has always cured him of his antivaccination views.

A small-pox hospital is a reflection on the intelligence of some of the citizens of a city. The burden of supporting such a hospital should fall on those who oppose vaccination. It is a needless expense and those who are careful to keep themselves immune from small-pox by vaccination should not be taxed to support hospitals for the care of a disease which is absolutely preventable by a universally known simple remedy.

The same methods for preventing small-pox in large cities are applicable to small cities, but large cities present difficulties not met with in small cities. The constant influx of cases from the surrounding country menaces the large city to a greater extent than the small city. The areas of congested population, the numerous centers of foreign-speaking population in large cities who mistrust our ways makes it more difficult to control disease among them than is the case where but few such people are found. In large cities there is more opportunity for concealing cases of small-pox. There is less respect for law and the rights of others in the large city. One of the greatest obstacles in a large city is the fact that the per capita tax for contagious diseases is lower than in smaller cities. A small town will spend one to five dollars per capita in a few months to suppress an epidemic of a contagious disease, while a large city like Chicago would never think of spending even fifty cents per capita to keep contagious diseases out of the city. By expending large sums of money, a small city can secure vaccination of nearly all and get small-pox under control in a few months, even after the disease has been introduced, but it takes a large sum of money to do it.

In a large city, if vaccination is neglected until small-pox is introduced at numerous points, the chances of preventing an epidemic becomes small. When an epidemic is well started in a large city full of susceptibles no effort that is likely to be put forth will eradicate the disease in less than two years. If everybody were vaccinated the disease would cease at once. This seems a simple matter, but in a city of two million, if we were to set one million the task of vaccinating the other million, the task would not be completed in a year. To vaccinate and keep vaccinated a large population requires persistent and aggressive work all the time.

The decisions of the courts that say vaccination can be enforced only in the presence of an epidemic, is not based on the true nature of epidemics of small-pox in relation to vaccination. The requirements are that a community must be made and kept immune if epidemics of small-pox are to be avoided. It is too late to prevent disaster if we wait until

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

small-pox is present. The community must be kept immune from this disease and there is no way to bring about this result except by compulsory vaccination. To wait until small-pox is present before enforcing vaccination is as foolish as it would be to wait until a building is on fire before enforcing the building ordinance which requires fire-proofing. In the meantime, when small-pox comes every case must be hospitalized and wholesale vaccinations begun.

The following directions to medical health officers in a large city have proved successful:

When notified of a suspected case of small-pox, the medical health officer goes to the case forthwith. An hour's delay may result in many needless exposures.

The following suggestions as to conduct in the presence of small-pox are observed so far as the circumstances of the case will permit with safety, the health officer being required to supply any deficiency in instructions which the individual case may demand for public safety:

When entering a house in which there is a suspected case of contagious or infectious disease, do not remove your hat or overcoat; keep the overcoat buttoned.

Do not shake hands with any one in the house. Do not sit down or touch anything in the house, and especially avoid touching the patient or bed-clothing. To expose the patient for examination, call on the patient or some one present to remove the patient's clothing for you. When leaving the house, have some one open the door so as to avoid touching an infected doorknob.

Except to vaccinate the inmates of the house, it is not necessary to touch anything about the premises, excepting the floor, with the soles of your shoes.

If these precautions are observed there is no danger of carrying the disease to others.

When it is determined the case is one of small-pox, fill out the history blank provided for the purpose, telephone the information to the department and promptly mail the filled blank to the chief of the bureau of contagious diseases.

Telephone instructions as to the disposal of the case, whether an ambulance or a carriage is needed, the amount of disinfecting to be done and the number of vaccinators needed.

In filling out the blank, secure a list of all who have been exposed in any way to the contagion since the first day of the sickness; learn if letters or laundry have been sent out from the house; if so, where and to whom sent; give the vaccinal status of those exposed, so far as you can.

It is the duty of the medical health officer to vaccinate, or see that some other officer vaccinates, all who are known to be exposed to the infection. Do not leave or allow this duty to be done by the family physician. It is the duty of the health officer to secure the consent of the patient or family for the removal of the patient to the isolation hospital. Do not leave this duty to the ambulance driver.

Until the ambulance comes, the case must be made safe. If it is necessary to police the house to secure safety, do so. After securing the prompt vaccination of all exposed persons it is the health officer's duty to see the exposed every other day for fifteen or twenty days. If the first vaccination does not take, repeat until it does take.

If there be doubt as to the diagnosis, vaccinate the inmates of the house, make the case safe to others and see the patient later.

A medical health officer must be courteous and tactful in carrying out the department regulations in cases of small-pox. He should be complete master of the situation, able to dispose of complications and duties as they arise. He should secure compliance with the ordinance without force, if possible, but if necessary use police power.

After the patient is removed to the hospital, the premises are disinfected. All who have been exposed must be kept where they can be seen by a health officer every other day for twenty days. If the exposed keep in touch with the health officers as indicated above, they can go about their business. No quarantine is needed for those exposed until symptoms of the disease are noticed. After the twelfth day following exposure, they should remain in the house until it is certain they have escaped the disease.

When a case of small-pox is discovered it is our custom to vaccinate every one within two blocks of the infected house in each direction. If the case is found in a lodging house, the lodging-house population of the city must be vaccinated and kept under close watch. Nightly visits must be made to these houses to vaccinate new arrivals. Those who die of small-pox are buried by the department officials in any cemetery designated by the relatives.

II. CONTROL OF SMALL-POX IN RURAL DISTRICTS AND SMALL MUNICIPALITIES

H. M. BRACKEN, M.D.
Secretary and Executive Officer, Minnesota State Board of Health
ST. PAUL, MINN.

The control of small-pox in the rural districts and in the smaller municipalities is to be secured in the same way as in the larger municipalities, viz., through vaccination. Small-pox cannot be controlled without vaccination.

The public demands quarantine for this disease largely because it is a loathsome and disfiguring disease. We should not mislead the public by catering to their unjust demands. Public sentiment may be humored to a certain extent but those who are responsible for the control of this disease have no right to yield to the extent of misleading the people. The people should know that quarantine alone will never control this disease. Further, we have no right to throw a heavy expense on a municipality by quarantine of small-pox in an attempt to do that which we know cannot be accomplished. Isolation is necessary to a certain extent but to give the public a sense of satisfaction or confidence in attempting to control the disease by isolation alone is a mistake. There are always a sufficient number of unrecognized mild cases, or concealed cases to keep the disease going, if we were depending for its control on quarantine or isolation rather than vaccination.

It is a common opinion that the infection of small-pox is air-borne for a considerable distance. This is a mistake. Like most other infections, this infection may be carried by articles of clothing, etc., but if the infection is to be passed from individual to individual there must be quite close and somewhat prolonged exposure. It is also a common opinion that the disease is carried by a second or intermediate person to a third person. This is not true. Individuals living in a house with a small-pox patient but not ill with the disease themselves will not spread the infection to others unless they have been in such close and prolonged contact with the patient as to have had a certain amount of the infectious agent attached to their clothing. In fact, the spread of small-pox by a second to a third person may be treated as a negligible quantity in a well-vaccinated community. Public opinion is ready to demand great inconvenience for many individuals and great expense for the community, in order to prevent the spread of small-pox, when, as a matter of fact, the disease may be controlled by the personal expense of vaccination only, or even no expense, for vaccination should be free to all those who wish to take advantage of the public vaccinators.

It is absurd for those of us who are entrusted with the education of the people in matters pertaining to preventable diseases to advise or even condone the use of illogical or unscientific methods in their control. Quarantine is a relic of barbarism. It accomplishes nothing unless carried out in a most inhuman way and at great expense. One has but to recall the old shotgun methods used in attempts to prevent the spread of yellow fever before other means of controlling this disease were known, to realize the difference between quarantine and scientific control of disease. With our knowledge of vaccination, there is no more reason for trying to limit the spread of small-pox by quarantine than there is for continuing the shotgun method of controlling yellow fever now that we know the disease can be controlled by simpler methods.

I presume there are few, if any, present who do not believe in the preventive influence of vaccination against small-pox. Why then is vaccination not universal? Simply because ignorant or misinformed individuals have sufficient influence with many state legislators to prevent the passage of compulsory vaccination laws or to secure their repeal when they already exist.

The leaders in the antivaccination movement have much to say about sore arms as the result of vaccination. We must admit that there are some sore arms following vaccination, but these are the result of infection, not of vaccination, and this infection, instead of furnishing argument against compulsory vaccination should be one of the strongest arguments in favor of it. Why? Because the more perfect the vaccination the less the liability of infection. Infection is due to the following: (1) impure vaccine; (2) faulty technic on the

part of the vaccinator; (3) imperfect care of the vaccinated arm or leg after vaccination. With proper compulsory vaccination laws, all of these possibilities would be reduced to a minimum.

We often vaccinate in emergency—that is, when there is a small-pox scare—or we vaccinate just before the opening of school in the fall, the very worst time of the year. A great part of our vaccination is done, therefore, under the most undesirable conditions. If we had compulsory vaccination laws, any state could determine very closely the amount of vaccine that its public vaccinators would need each year, for this would be governed by the number of births, and the production of vaccine would then be carried on under the most favorable conditions. When vaccine producers do not know how much of their product will be needed they may be short in their supply when the heavy demand is made on them in emergencies, and then be compelled to produce vaccine for rush orders or in hot weather. If we had compulsory vaccination, the children would be vaccinated at the most advantageous period of life, viz., the cradle age, instead of during the school age. In the countries having compulsory vaccination laws there is no active vaccination carried on during the two or three hottest months of the year. In our country, where we try to secure vaccination through the vaccination of school children, we do the greater part of the work in September, one of the most undesirable months of the year so far as the vaccine is concerned and one of the months which is most conducive to arm infection after vaccination because of the heat and dust. If we had compulsory vaccination laws, with well-trained vaccinators to take care of the poor, we would not run so great a risk as we do now of having sore arms.

Although the influence of demagogues and misguided individuals is often greater with legislators than is that of scientific leaders, the need of educating the people as to the control of small-pox by vaccination rather than by quarantine is imperative, and it seems to me the method adopted in Minnesota in 1908 is worthy of consideration. This consists in (1) placing a premium on vaccination by allowing the vaccinated privileges not granted to the unvaccinated, and (2) refusing to endorse the expenditure of considerable sums of money in an attempt to control the disease by rigid quarantine. It is well known that certain communities that have tried to control small-pox by quarantine have failed, and have been compelled to go back to the old system of vaccination as a means of protection. Vaccination is a small expense to the individual.

I wish to emphasize the fact which I have already stated, that quarantine is simply a relic of barbarism. There are only a few diseases that are now under quarantine regulations and most of these are diseases in which quarantine was chosen as the means of control before anything was known as to the cause of the disease. Fortunately, in most instances in which the cause of the disease has been discovered, scientific methods for its control have been adopted and rigid quarantine abandoned. Take yellow fever as an example. A few years ago an outbreak of yellow fever demoralized commerce and interfered with the carrying out of the general intercourse of the community, but when it was found that the infected mosquito was the only means of transmission the old system of quarantine was thrown down.

New diseases come up and we study them carefully. Take epidemic anterior poliomyelitis as an example. In the olden days undoubtedly the public would have demanded that health officials establish a rigid quarantine. At present the people ask the public health officials about the probable danger and are given advice. Instead of establishing a rigid quarantine, it is sufficient to point out the lines of probable infection and establish a system of isolation, similar to that used in Minnesota under the regulation that reads as follows:

Every case of epidemic anterior poliomyelitis shall be reported to the local health officer at once. The patient shall be isolated for a period of two weeks from the onset of symptoms. All other children, teachers or others having to do with children residing in the affected household shall be kept under observation for a period of three weeks from the date of last exposure within the household; they shall not attend during this period day school, Sunday school or any public or private gathering whatever. Residence, boarding or lodging in a household during isolation therein of a patient suffering from anterior poliomyelitis shall constitute exposure. The discharges from the nose, throat and mouth of the patient must be received on cloths and burned at once. After death or termination of isolation all personal clothing and bedding of the patient, together with the contents of the room and the room itself, must be thoroughly disinfected under the personal supervision of the local health officer. In case of death a public funeral or viewing of the remains of the deceased is forbidden. Every doubtful case of anterior poliomyelitis shall be classed as of epidemic type and cared for accordingly until proved to be otherwise.

I think I have said enough to show that the control of small-pox is no different in the country districts and the smaller municipalties from what it is in the larger centers.

In January, 1908, the Minnesota State Board of Health put into effect the following regulations:

The local health officer having knowledge of, or having reason to suspect the existence of small-pox, shall investigate and at once place on the house where small-pox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a small-pox patient as having recovered he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. The patient must not leave the house until after the removal of the warning card.

The apartments occupied by a small-pox patient shall be deemed infected, and when vacated by death or removal of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer.

Every physician shall immediately report to the local health officer, in writing, the name of every small-pox patient under his care, the state of his or her disease, and his or her place of residence. A report must be made for each case as it occurs in a family or household.

Every physician shall report, in writing, to the local health officer the death of any small-pox patient under his care within twelve hours thereafter.

The local health officer of any city, village or township must report within twenty-four hours to the secretary of the Minnesota State Board of Health all cases of small-pox occurring within his jurisdiction, and the date of removal of the warning card.

Following an exposure of small-pox, every individual who cannot show evidence of a recent successful vaccination or a recent attack of small-pox must be vaccinated (within three days of the first exposure) or placed under the same isolation restrictions as small-pox patients.

If small-pox prevails in a community, or if the disease appears in a school, all unvaccinated teachers and pupils must be excluded from school for a period of three weeks unless vaccinated within three days of first exposure. Failing to comply with this requirement, the school must be closed for a period of three weeks.

If small-pox appears in any class in any college in Minnesota, all unvaccinated teachers and students in the class must be excluded from recitations for a period of three weeks unless vaccinated within three days of the first exposure. Failing to comply with this requirement, the classes attended by such teachers or students must be discontinued for a period of three weeks.

All persons having been ill with small-pox must have their clothing disinfected and take a disinfecting bath before being released from quarantine.

These have proved quite satisfactory. They call for the isolation of the patient without a quarantine on the premises. They place restrictions on the unvaccinated but grant privileges to the vaccinated; in other words, they penalize the unvaccinated and put a premium on vaccination. Through these regulations Minnesota, a state without compulsory vaccination laws—in fact, a state with antivaccination laws—has secured a fair degree of vaccination, for the people realize that they must protect themselves both from the disease and from the inconvenience of restraint in the event of exposure.

ABSTRACT OF DISCUSSION

ON REPORTS OF DRS. SPALDING AND BRACKEN

DR. E. STUVER, Fort Collins, Colo.: I am highly pleased that so distinguished an authority as Dr. Bracken takes the stand that he does on the question of quarantine. The world has been scourged with small-pox; between the years 1700 and 1800, one hundred millions of people died in Europe from small-pox; and Macaulay tells us that at one time scarcely a person could be found in London who was not marked or disfigured by that disease. Since Jenner discovered vaccination, no one who does not want small-pox need have it. What does quarantine do? It gives us a wall behind which the antivaccinationists can hide; they cry to the public, "Isolate cases of small-pox"; and they can shoot into the scientific world with the material that they collect from all sources and keep up a battle of that sort; whereas, if we turned our small-pox patients loose, we would soon see those people taking to the woods. They would get vaccinated. As shown by the epidemic in England, and especially when the thing came very close home, the antivaccinationists got vaccinated, and they didn't take small-pox.

Swallowing the virus does not work out in the presence of real danger. It will do when the small-pox is in some other county. The principal thing that we want to impress on our communities is the fact that vaccination does prevent small-pox. We had an epidemic in our small town last spring; our health officer made a report in April that at that time we had had fifty-eight cases of small-pox: fifty-three patients had never been vaccinated at all, and the remaining five persons who contracted small-pox had not been vaccinated within fifteen years. No person in the community who had been properly or efficiently vaccinated took small-pox. People will come to the physician and try to argue the question of vaccination. I tell them: "I don't care whether you get vaccinated or not; it is a good deal more in my pocket if you don't get vaccinated. As far as myself and my own family, and people whom I have to look after, are concerned, I vaccinate them. You can use your own judgment. It is your great American privilege to be vaccinated or not; do as you please." They yield gracefully in nearly every case. If you argue the matter they will keep you tired for a week, and probably then not be vaccinated.

The question of sore arms, I believe, depends on the person one is dealing with. I have explained it something like this: Some are absolutely immune against the disease. Vaccination will not "take" on them under any circumstances. There is another class who are highly immune. They have mild sores; the manifestations are mild and they soon recover. There is the ordinary case, that runs an ordinary course; there are no severe symptoms and the person soon recovers. There is a fourth class, who have quite a strong susceptibility to the vaccine poison; and those persons get quite sore arms and become quite ill from vaccination. A large percentage of this latter class would die from small-pox. In the fifth class are persons who are exceedingly susceptible to the poison of small-pox, and when attacked they die. An explanation of that kind made to the public sometimes clears up the atmosphere and shows that the reason some people have very sore arms is because they are exceedingly susceptible to the small-pox virus, and if they took small-pox they would surely die from it.

DR. J. N. HURTY, Indianapolis: I heartily agree with Dr. Bracken in every respect except one. He said that quarantine and isolation (I don't know the exact differentiation or distinction between the two) are barbarisms.

DR. H. M. BRACKEN, St. Paul, Minn.: Quarantine only.

DR. J. N. HURTY, Indianapolis: Quarantine only is a barbarism. Well, perhaps it is; but I would advocate very strict isolation of a certain class of diseases (with which you are all acquainted), if not quarantine; yet we permit their victims to run loose in this world uncontrolled in any way whatsoever. I refer to tuberculosis and the venereal diseases. We are inconsistent in the way in which we conduct our affairs, both public and private; and this is one of the most glaring inconsistencies that I know of—that we should permit persons infected with the most terrible leprous diseases to go about unchallenged in any particular whatsoever. They are more dangerous than small-pox victims, a thousand times more dangerous. Yet we are all aroused, ready to pay great sums of money for the quarantine and isolation of the small-pox person but not for the other. So I would advocate the retention of quarantine and isolation to some degree, because such methods are not barbarisms entirely. Then there is another point in regard to small-pox which Dr. Bracken did not mention. Shall we any longer class it as a dangerous disease? It is less dangerous in my state than measles. We have reported at this time about 300 cases of small-pox every month and not a single death. Inquiry was made into the reports for three months, and none of the cases was severe. Physicians everywhere were disputing whether it was small-pox or not. I think it was; but it was so mild that the element of danger did not enter into it.

DR. H. M. BRACKEN, St. Paul, Minn.: A distinction should be made between quarantine and isolation. By quarantine we should mean rigid restraint of infected individuals and those associated with them. Isolation means only the separation of the patient with little or no restraint on the movements of other members of a family. I believe thoroughly in the isolation of many diseases, such as measles, epidemic anterior poliomyelitis, typhoid fever and small-pox; and I would be glad to see the day when certain other diseases now in the quarantinable group were put into the group of diseases for which isolation is recognized as sufficient. In Minnesota the death-rate from small-pox is less than 0.5 per cent. I do not remember the exact death-rate for measles and scarlet fever, but it is considerably higher than that for small-pox.

PUBLIC HEALTH EXHIBITS FOR PERMANENT INSTALLATION *

FRANK B. WYNN, M.D.
Director of the Scientific Exhibit of the American Medical Association
INDIANAPOLIS

Certainly no one will deny the assertion that man's greatest fund of information concerning the world about him is gained through the sense of sight. The objects seen are but so many exhibits. Furthermore, knowledge thus gained is more readily acquired and better retained than through the spoken word. It seems strange, therefore, that the exhibit method of instruction should not be more generally employed in the education of the young. How little is done in our public schools to develop a critical faculty of observation! Children are trained along abstract lines. They grow to maturity with eyes, which should be their greatest aids, and yet see not.

The earliest employment of the exhibit principle of instruction in educational work came through the museum. Art was first to profit largely by the application of the exhibit method. In recent times the commercial and educational world, through expositions and fairs, have made extensive use of the idea. These, however, have been transient in character and wanting in continuity of educational effect.

Health authorities have abundantly demonstrated that exhibits constitute the most effective means thus far used in educating the public on health problems. As ordinarily employed they are cumbersome, expensive in their initial cost and in their maintenance; they are shown only in the larger cities and towns, presented for a day or two, and not again for a long period. I would not be understood for a moment as decrying the usual methods now employed; they are most valuable and should be continued. My appeal is to supplement these efforts by permanently installed health exhibits, which will teach the lessons of hygiene and sanitary science day by day. The evangelical stage of health propaganda has been passed; let such agitation be followed by preaching and practicing a health religion in the daily life. Systematic and continuous instruction should constitute the second stage in the evolution of health methods; best accomplished through colleges, the high school and the public schools; and for the work-a-day citizen, permanently installed exhibits.

It is not the intention at this time to consider school methods of instruction on health matters, a phase of elementary education greatly neglected. It is only the exhibit aspect of the question that is now offered for consideration. The up-to-date teacher sees to decoration of the schoolroom walls with pictures of persons or things relating to the subjects taught. Frequently one may note the pictures of Shakespeare, Bryant or Emerson in illumination of literature; that of Washington, Jefferson and Lincoln in exemplification of war and statesmanship; but whoever saw the pictures of Jenner, Pasteur or Koch as great heroes and benefactors of mankind?

Until the curricula of our public schools include competent instructors on health matters, is there not something which health authorities may inaugurate which will leave a permanent impression on the child?

A compact sanitary exhibit, such as devised through the Scientific Exhibit of the Association, seems to me a step in the right direction. The exhibit shown at Los Angeles and previously described[1] contains thirty metallic leaves, easily removable, on which are mounted sixty pages of pictures, charts and

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Wynn, Frank B.: Public Health Exhibits Under the Supervision of the American Medical Association, THE JOURNAL A. M. A., Jan. 28, 1911, p. 294.

data. In this particular exhibit the subject of tuberculosis only is treated. Let such exhibits be placed in school buildings. Groups of these leaves might be removed at pleasure by health authorities and others substituted on a health topic of interest in the community. At one time a campaign might be waged on food adulteration; at another, on the evils of self-medication, "patent medicines," etc.; or the local situation might call for agitation on the subject of typhoid prevention. There are endless ways in which a public health bulletin of this character could be used by efficient health officers for systematic instruction on health subjects.

Other places in which the same type of exhibits might be installed permanently are notably, court-houses, city halls, railway stations and other public places where people congregate and find the opportunity to look and read. They would be especially adapted to villages and towns where large migratory health exhibits do not go.

The American Medical Association could engage at this time in no work of greater practical value to the public health than in the standardization of data and material for small exhibits of this character, making the product so cheap that it would be available for remote rural as well as urban districts.

ABSTRACT OF DISCUSSION

DR. A. J. REED, Battle Creek, Mich.: I was very much interested in this ingenious device that Dr. Wynn has presented, because it seems to me that it is really very practical. It is true that people waiting in railroad stations have time to kill; and, unfortunately, their idleness and ignorance endanger the health and lives of human beings. They are killing their neighbors for want of knowledge. The laity are wonderfully ignorant about the simplest principles of health. The suggestion of following up timely health subjects, such as typhoid, epidemics of small-pox and general health instruction in this manner, I believe will be very helpful and I hope that it will be remembered by those in attendance and put into practice. I believe that there is a moral obligation resting on the profession to educate the people on the prevention of disease and the preservation of health. We should not leave this opportunity to be used by quacks and fakers. I don't know how some of us can do any better missionary work than by investing a few cents in similar attractive, modern devices for our own towns and counties and installing these silent messengers which are constantly at work, enlightening the people. The inroads which preventable diseases are making in spite of our best efforts, demand that we do more in the future than we have in the past for the physical salvation of our communities.

DR. E. STUVER, Ft. Collins, Colo.: I would like to inquire of Dr. Wynn where those leaves can be procured and at what cost.

DR. S. A. KNOPF, New York: I think this is a most excellent and admirable scheme. It is particularly good to have a leaflet containing the antispitting ordinances; but in my experience it is utterly useless to say: "Don't spit." People will spit. Now, I believe it would be a good idea if, instead of our negative command, we would make a positive one, and say: "Spit here!" and with it provide a proper receptacle. I don't mean to say that all people spit; but some have colds and some use tobacco, etc. It is just as injurious to swallow the expectoration as to put it where it can infect others. There should be no railway station nor railway car without a proper and sensibly constructed spittoon. Those now in use in most Pullman cars are only fancy articles. They are so planned that the sputum in them always dries; and I pity the poor porter who has to clean them. For railway stations, public places and health resorts I believe in the automatic self-cleansing spittoons. We ought to have them everywhere in sufficient numbers, since we now know that tuberculous sputum is the main cause of infection from man to man. Spitting on the sidewalk should be prohibited; but on the other hand, I don't believe we should say don't spit at all. We should say don't spit on the sidewalk, don't spit where people walk. We might then induce people on the street, where there are no proper receptacles, to spit in the gutter. This would be an improvement on existing conditions.

DR. FRANK B. WYNN, Indianapolis: This exhibit and three other models have been developed as part of the Scientific Exhibit. Prizes were offered two years ago with the view of developing compact and durable exhibits. These have been the outcome and have the endorsement of the Council on Public Health. There are three models. This one relating to tuberculosis sold at $15.00. There is a size a little larger that costs $20.00; and there is a wall kind that folds and lets down, containing the same data, and also large placards, which sells also for $15.00. Considerable reduction in prices over those given may be secured if the exhibits are purchased in quantities. These can be bought through the Council on Health and Public Instruction of the American Medical Association, at the Chicago office, or of Clark & Roberts of Indianapolis, who have been the manufacturers thus far.

THE PSYCHOLOGIC ASPECT OF REFRACTION *

S. L. LEDBETTER, M.D.
BIRMINGHAM, ALA.

While refraction is a science based on mathematical principles and theoretically very exact, yet there are other questions involved besides that of measuring the radius of curvature, finding the far and near points, range of accommodation, etc.

What I shall have to say in this short paper will not be new to many, but it is a phase of refraction about which very little has been said or written. Hence my excuse for presenting this paper.

Has psychology any practical bearing on the subject of refraction? In many cases perhaps very little, while in other cases quite a good deal. If all brains were of the same quality, all minds trained to think alike, all nervous systems equally well balanced, every individual reared in a pure atmosphere with proper and healthful environments, refraction would in a measure be reduced to the simple question of accurate observation and correct measurements. It would be largely mechanical. But as such conditions do not and cannot exist, we are bound to recognize the right of psychology to a place in refraction. We must in every case consider the individual with all his idiosyncrasies and eccentricities. Refraction to the beginner is a fascinating subject. It appeals to him because of its exactness. It presents problems which he can work out for himself, and he can prove the correctness of his conclusions. He is therefore liable to underestimate the gravity of the subject, and to overlook one of the most vital features of it; that is, the individuality of the patient, as well as that of the examiner. I shall not attempt to go into the philosophy of mental suggestion or to discuss the various theories of psychic phenomena, because it is not necessary or expedient to do so, and the field is too broad.

We are compelled to admit that there is a psychologic phase to every situation in which two minds are brought in close relationship; where the personality of the one appeals to that of the other, and where a motive exists for the obtaining of a sympathetic relationship between the two. To have a strong personality, or to be possessed of what is usually termed personal magnetism, is a very necessary element of success in any calling in life, and it is worth as much to the refractionist as to any other. In fact, the refractionist who does not possess a reasonable amount of the faculty is handicapped.

* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The fitting of glasses to presbyopes, in a large percentage of cases, does not call for any great skill or an extensive knowledge of scientific refraction, but does require a reasonable amount of common sense and a good knowledge of human nature. These patients are not hard to please, as a rule, and are satisfied with vision which enables them to read ordinary print without much effort. This assertion applies, of course, to the rank and file of those who have accepted the portion of senility, who have worn off the wire edge of enjoyment and have resigned themselves to the simple life. I have seen patients with decided astigmatism plodding along contentedly with a very indifferent pair of spherical lenses, in frames set all askew. A person of this class of humanity is easily imposed on by the unscrupulous spectacle-vender, and can usually fit himself if you will furnish him with a few pairs of glasses from which to select. There are others, however, who have very decided ideas of the dangers which may come from the wearing of glasses incorrectly fitted and who would be very unhappy if they had been fitted by one in whom they had not the utmost confidence. And still, they may not be unreasonable in their requirements and need only to be assured that they have had a proper refraction and that their glasses are correct.

There are others, however, who are skeptical and disposed to find fault. They are never quite sure of anything; are afraid to admit that they see any better with one lens than another, lest they make a mistake and mislead the refractionist. They will hesitate as to the relative clearness of two lenses, trying first one, then another; then they will go back to the first again, and so seesaw back and forth until the refractionist has exhausted his stock of patience and nervous energy, and the patient is in such a state of uncertainty that he cannot render any intelligent assistance. Perhaps the most sensible thing to do in this case would be the postponement of the work to another day. This gives the refractionist time to take the measure of this patient and plan his campaign, when, perhaps, by bringing to bear a large amount of his own personality the patient may be made to accept a correction. A patient of this class is likely to give the physician more or less trouble later, for having a doubting disposition he will do some testing on his own account and return from time to time with his grievances. Whether the grievance be real or otherwise does not much matter, for he thinks it is a real one and the case must be given some attention. If the refractionist feels sure that he has given a proper correction, then it becomes a question of dealing with the mental attitude of the patient. Confidence must be established and ghosts of imaginary evil and preconceived ideas of dire calamity must be dissipated. With this class of patients there is a fertile field for the exercise of a strong personality and psychologic influence.

Much more might be said along this line, but I wish to discuss briefly another phase of humanity, one of the most troublesome types with which we have to deal; i. e., the man (or woman) who thinks that glasses would in some way or other be an advantage to him. He has diagnosed his own case by introspection or reading quack advertisements, or else he thinks that glasses will lend a certain appearance of respectability or intellectuality, and insists on having them. The individual of this particular type is usually ignorant and could get on just as well without glasses as with them, even if he should happen to have a small amount of ametropia, but he wants them and will very frequently deceive the examiner—unintentionally, perhaps. His anxiety to obtain the glasses will lead him to say that he sees better when he really does not, and nearly any lens placed before him is good. His replies cannot be depended on at all as to how well he sees. The only sure test is to make him call the letters, if he knows them. Sometimes, however, he will say that a certain lens is an improvement, not from any intent to deceive, but because he is led on by mental suggestion to say that he sees better or worse. He is impressed with the idea that he is expected to see better, and answers the question accordingly, but when called on to read the letters he stumbles as badly or even worse than before.

While I do not approve of suggestive therapeutics or hypnotism as practiced by the ill-advised or the charlatan, I do recognize that much can be done with individuals of this type by mental suggestion. They have very plastic, impressionable minds. They are credulous and more or less superstitious and easily imposed on, and are the legitimate prey of the unscrupulous. Still this same unexplainable something which we call personality, this power to impress and inspire confidence, is a very potent one, and the refractionist who is lacking in it will experience great difficulty in leading the patients along lines of least resistance to correct conclusions. It is also necessary to be a good judge of human nature, to be able to interpret mental attitudes of a patient, to recognize elements of hysteria and detect symptoms of remote reflexes and neuroses, to be able to say to your patient that, with the restoration to a normal condition mentally and physically, all eye symptoms will pass away. More than this, it is necessary to carry conviction to the mind of the patient and furnish a substitute for all his preconceived ideas. Sometimes it seems advisable to compromise with him and give glasses when one is convinced that there is no real need for them. Some of these patients come to recognize in time that they get on just as well without their glasses, and lay them aside, while others continue to wear even plain glasses with a great deal of confidence and will stoutly maintain that their eyes soon grow tired and give trouble when the glasses have been left off.

So the glasses have served a good purpose and the end has justified the means in a measure. With the conscientious physician the bringing to bear of all of these faculties and forces, if the interest of his patient be subserved, is a perfectly justifiable procedure; it is honorable and legitimate. But with a refractionist who is looking only to the monetary side of the question, or with the quack spectacle-vender, whose mission is to sell glasses regardless of the requirements of the case, the exercise of this faculty becomes a means of perpetrating fraud, and cannot be too severely condemned.

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: Psychology has a great deal to do with refraction. How to make the psychologic impression is the question we should ask ourselves and we want to be able to answer it. In the first place we will need no psychology if the patient has only one eye and there is no inflammatory trouble in that eye. To make a proper psychologic impression on the patient a thorough examination should be made, not only as to the refractive error, but also as to the condition of the ocular muscles. A patient with hyperphoria even of half a degree is going to complain if this is not corrected. If he is told that he has it and that you are going to correct it the effect follows, not only from the psychologic impression, but also from the prismatic power of the lens. Many times I have gone over the refraction of patients

who had been to my confrères and found absolutely no necessity for a change of lenses except as to prismatic correction of a hyperphoria of low degree. If in giving a prism it is placed before the hyperphoric eye there is always relief. If there is exophoria in the near and your patient has a hyperopia and you attempt to give full correction without paying attention to the exophoria in the near, then you are going to get into trouble, psychologic effort or not. If there is esophoria in the near with hyperopia and you fail to give full correction then you are going to have trouble and no suggestive effort will avail. If an astigmatic patient needs plus cylinders with axes diverging, these will make a rectangle look broader at the bottom and he will feel that he is walking up hill for a few days. But the patient can be told this beforehand and the mental impress does good. He or she can be assured that this annoyance will vanish shortly and no complaints will follow. But plus cylinders having their axes converge above will make the patient walk down hill (the rectangle will be broader at the top) and that condition will last four to ten times longer than the other trouble. If you tell the patient this beforehand you make a psychologic impression and he patiently becomes accustomed to his glasses. Another fact which should be told the patient that makes a good psychologic impression is that a straight line should always pass through the four joints of the spectacle frame, and that his lenses must be level before his eyes.

DR. C. D. WESCOTT, Chicago: Just one word with regard to the treatment of our presbyopic patients. It seems to me that the decade in which we should be most careful is between 45 and 55. It is certainly the time of life when I use cycloplegia with the greatest care and in which I make the greatest effort to correct low grades of astigmatism. I have one patient, a physician 66 years of age, who will not accept a cylinder unless the eye is under the influence of a cycloplegic. Under homatropin and cocain he accepts half a diopter cylinder and is more comfortable both in reading and for distance. It has been my practice for years to use atropin, in the absence of any contra-indication, in all patients under 40, who are not comfortable in glasses prescribed under homatropin, and in patients over that age I use homatropin and cocain, 2 per cent. each, a half dozen drops in each eye at intervals of five minutes, waiting an hour and fifteen minutes before making the tests. I use it up to 70. Frequently I do not use the full dosage, but I use it in practically all patients in whom there is no contra-indication.

MARK D. STEVENSON, Akron, O.: I think one of the most important things, aside from the refraction, is to outline to the patient the difficulties in becoming accustomed to the lenses and their proper use. Years ago I had a large envelope printed stating the reasons why patients would not at first be satisfied with their lenses, although proper. An assistant also very thoroughly explains, with suggestions from me, why at first they will have difficulty. I feel that this is of very great importance from the psychologic standpoint. In addition to this a thorough explanation is made of how to wear the lenses. If this is not explained to patients their control will be more difficult. I think if we can foresee probable difficulties and explain that these often occur in a patient correctly fitted, and must be expected, that it is of the very greatest importance from a psychologic standpoint. I think one of the chief reasons for using atropin instead of homatropin under 45 or 50 years of age is that it assists the patient in quickly becoming accustomed to his lenses and is not merely used to find the static refraction. It also gives the patient's eyes a rest.

DR. EDGAR S. THOMSON, New York: I think it is very important indeed to prepare the patients for just what they are going to experience. In the first place the action of the eyes is a matter of the coordination of a number of different muscles, and delicate acts of coordination must always be subconscious in order to be perfectly easy. There is a very decided analogy, to my mind, in becoming accustomed to new conditions in coordination of the eyes, to learning a new passage on a musical instrument, say the piano. It must be carefully drilled into the memory first of all and then it must be played without thinking of the individual action of the fingers; in other words, the coordination must be in the subconscious mind. Now, if patients get a lot of unexpected symptoms that disturb them when they first put on the glasses they immediately begin to try to pull around them, and try to adjust themselves to them, which is just what they should not do. Therefore it is important in any change of refractive conditions to have them prepared so that they will drift with the tide instead of fighting it.

DR. W. E. LAMBERT, New York: All this is a tempest in a teapot. Most of the people we have to deal with cannot understand these details. We presume of course that any man who attempts to fit glasses knows his business and makes a thorough examination, but the subjective tests may show up somewhat differently, and he has to use his common sense in dealing with the different patients. This applies to fitting glasses, giving medicine or anything else, and to my mind that is what Dr. Ledbetter tried to bring out in assuming scientific knowledge. He says it is a fascinating subject. I have not found it so. Refraction is a tiresome and tedious thing. It reminds me that we must at times be all things to all men. It is quite legitimate to dissemble if we do it for the benefit of the patient. A woman had a pain in the back of her head. I said, "That is a matter for your family physician and I should like to consult with him about your case." She said, "I have none; I am a mental scientist." I said, "By an extraordinary coincidence so am I. I thoroughly believe in bread pills when they are indicated, but I also believe in calomel when it is indicated. Now your condition is not for mental science or for bread pills." We must deal with these people according to their mental caliber.

INTRA-UTERINE OPHTHALMIA NEONATORUM

W. A. NEWMAN DORLAND, A.M., M.D.
CHICAGO

The development of gonorrheal ophthalmia in a fetus *in utero* is so extremely rare that it becomes almost obligatory to place such a case on record. The textbooks in almost every instance fail to mention the condition, even as a possibility. A communication, recently received from Dr. F. Park Lewis, Chairman of the American Medical Association's Committee on Prevention of Blindness, states that, while it is a very unusual occurrence, intra-uterine ophthalmia has been recognized for some time. The condition was first noted by Quellmalz in 1750. Demours,[1] Guthrie,[2] Hilsenburg and Hasse[3] were among the earliest to report cases. They were followed by others, and more recently, by Queirel,[4] in 1902, and finally by Sydney Stephenson[5] in 1907, who tabulated 90 cases collected from literature and encountered in his own experience. In all literature to date about 100 cases have been recorded. Some interesting facts are to be noted, as follows: Not only the gonococcus, but the pneumococcus, colon bacillus and other germs may be the causative agent; the gonococcus, however, is by far the most common cause. In only a little over one-third of the cases was premature rupture of the membranes noted. In the other two-thirds (63 per cent.) the membranes ruptured at some time within twenty-four hours of the birth of the child, too late to permit of antenatal development taking place. A few cases of fully developed ophthalmia have been recorded of children born in a caul. Other cases are reported in which the ophthalmia had apparently run its course *in utero*, leaving damaged corneas or atrophic eye-balls. Beyond controversy the increased temperature of the conjunctival

1. Demours: Traité des maladies des yeux, ii, 146.
2. Guthrie: Lond. Med. and Phys. Jour., January, 1829, p. 5.
3. Hasse: Neue Ztschr. f. Geb., 1838, vii, 439.
4. Queirel: Leçons de Clinique Obstétricale.
5. Stephenson, S.: Ophthalmia Neonatorum.

sac *in utero* enhances the virulence of the causative microorganism, and this, together with a lack of resisting power on the part of the infant, results in the extremely acute course of these cases. Placental transmission has been suggested as a method of infection *in utero*, but Stephenson believes that most of the cases are to be explained by the theory of a local intra-uterine infection—penetration of the intact membranes by the germs. Infection in the case I am about to report undoubtedly took place because of a premature rupture of the membranes.

Mrs. X, aged 24, the wife of a medical student, was admitted to Jefferson Park Hospital on the morning of Jan. 13, 1911, well advanced in the first stage of labor. The bag of waters had ruptured spontaneously seven days before, while the patient was engaged in her usual household affairs, but there had been no labor pains until the midnight before her admission to the hospital. Labor was easy and uneventful, without complication, other than a trivial fourchet tear. When the nurse attempted to instil the silver solution in the baby's eyes they were found to be the seat of an advanced gonorrheal ophthalmia. A greenish pus was exuding in large quantities from each eye, and the conjunctivæ were deeply injected, presenting a vivid red appearance. So virulent was the case, that, in order to prevent the remotest possibility of infection of the other babies in the hospital, the child and mother were immediately removed to the Illinois Charitable Eye and Ear Infirmary, where prompt and energetic treatment of the eyes was instituted. Notwithstanding the excellent care the baby received at this institution, one eye became perforated the following day and was destroyed, and the other showed almost complete corneal opacity from ulceration. The mother passed through a normal apyretic convalescence.

The points of interest in this case are the early rupture of the bag of waters, one week prior to the onset of the labor pains; the apyretic course of the mother's case in the presence of a virulent vaginal infection; and the infection of the child's eyes during the week subsequent to the rupture of the membrane while the fetus was still *in utero*. It is interesting to conjecture how the gonococci gained entrance to the uterine cavity, since the mother denied all vaginal douching prior to the delivery of the child. The freedom of the mother from gonorrheal puerperal fever was due to the fact that the infection had occurred within the amniotic sac and had been thereby limited to that cavity without penetration to the decidual tissue.

1422 West Jackson Boulevard.

THROMBOSIS OF THE MESENTERY CAUSING GANGRENE OF THE ILEUM

R. W. WAKEFIELD, M.D.
BAR HARBOR, ME.

I report the following case for two reasons; first, because thrombosis of the mesentery is rarely seen and never diagnosed except at operation or post mortem; and second, because this patient made an uninterrupted recovery from this surgical affection which is usually attended by a very high mortality.

History.—W. T. H., a white man, married, aged 60, was a merchant. Family and personal history were negative. For the past twenty-five years he had suffered occasionally from so-called "bilious attacks," in which he would be taken suddenly with nausea, vomiting and epigastric pain after some indiscretion in diet. Attacks would last from a few hours to two or three days, after which time the patient would feel perfectly well again; was never jaundiced. Two and one-half years ago he suffered from bronchopneumonia but made a good recovery. Since convalescing from pneumonia he has enjoyed good health until present illness. Two weeks before illness came on he took a long horseback ride but felt no inconvenience from the exertion, except general muscular stiffness which soon disappeared. On the morning of July 8, 1911, the patient was in his usual health until 10 a. m. when, while riding in his carriage, he was suddenly taken with severe abdominal cramps, nausea, vertigo and faintness. In a few moments vomiting began.

Examination.—His family physician, Dr. George Neal, found patient prostrated, vomiting frequently, mostly mucus and water; complained of severe pain in epigastrium, chilliness and frequent desire to go to stool. Pain was paroxysmal but not colicky; patient complained that pain would rise in throat, choke him and make him feel faint. Countenance was cyanotic, pulse 90, feeble and intermittent. Palpation over abdomen showed no particular point of tenderness, but whole abdomen was distended and greatest pain seemed to be in epigastrium.

Course.—A high enema was given with small result. Patient's bowels had moved normally at 7 a. m. Distress was so great that ¼ grain of morphin was given. At 5 p. m., pain had ceased and patient felt comfortable, with pulse 90, regular. At 9 p. m., distress and vomiting returned and continued at intervals during the night.

July 9, 10 a. m., pulse 110; abdomen was distended and tympanitic; there was an area of dulness at McBurney's point; diffuse tenderness. At 12 a. m., vomitus was of coffee-ground character; a high enema of salt solution came away almost clear. At 2 p. m., stercoraceous vomiting began. Pulse 120, feeble; temperature 100. In spite of the administration of calomel, salines and high enemas, constipation was complete.

I saw the patient at 6 p. m. Face pallid and expression anxious; breath foul. Mental condition normal. Found a few coarse râles at the base of both lungs; lungs otherwise normal; pulse, 120; heart sounds weak; abdomen moderately distended, right side more than the left; recti muscles very rigid. A distinct tumor about 2½ inches in diameter could be palpated at McBurney's point. There was marked tympany over abdomen everywhere, except at site of tumor. Note over tumor was dull but not flat. Temperature 100 2/5 F. A diagnosis of acute intestinal obstruction was made and the patient was hurried to the Bar Harbor Hospital, 18 miles distant.

Operation.—At 11 p. m. right rectus incision was made over most prominent part of tumor. Peritoneum was very dark in color; when opened, a large quantity of serous fluid escaped. Ileum immediately presented itself in the wound, black in color; gangrenous for about 30 inches. Mesentery was gangrenous for about half its depth, and all the vessels were thrombosed. No other lesion was found. The gangrenous bowel and its mesentery were quickly resected and anastomosis made with Murphy button. The abdomen was closed with through-and-through silkworm gut sutures without drainage.

Recovery.—Patient suffered but slight shock from the operation and reacted well under treatment. Murphy button was recovered on tenth day. The patient made an uninterrupted recovery and feels perfectly well one month after operation.

I want to acknowledge my indebtedness to Dr. Neal for the privilege of reporting this case.

16 High Street.

The Sacred Disease.—In the time of Hippocrates the Greeks called epilepsy the "divine ill" or the "sacred disease." Cullen says that it was so called because the ignorant thought it the result of divine punishment. Some of the old books say that the Sibyls rendered their answers in the midst of epileptiform convulsions. That the entire nation was not so densely ignorant nor superstitious regarding its origin, however, is proved by this remark by Hippocrates: "It appears to me to be in nowise more divine or more sacred than other diseases. Men regard its nature and cause as divine from ignorance and wonder because it is not like other diseases."—E. L. Hunt in *Medical Record.*

AN AVOIDABLE ACCIDENT DURING LUMBAR PUNCTURE

W. F. LORENZ, M.D.
MENDOTA, WIS.

While I had long entertained the possibility of breaking a needle during lumbar puncture, yet the accident happened only after a large number of punctures had been performed.

The patient was in the lateral position on the left side and fully flexed. He was held in this position by an attendant with one arm beneath the patient's knees and the other about his neck. Ethyl chlorid was used as a local anesthetic. The puncture was made in the fourth lumbar interspace just to the right of the median line and close to the upper border of the fifth spinous process. The patient apparently did not heed the entrance of the needle until its point was in the neighborhood of the canal, when he suddenly extended his back and the needle snapped, leaving 4 cm. well below the cutaneous surface. The patient was immediately anesthetized and a search made for the needle, without success. Three days later an *x*-ray picture was made and showed the needle lodged close to the upper border of the fifth lumbar spine. The patient was again anesthetized and the needle was easily removed.

This accident can be avoided if means are taken to prevent a sudden extension on the part of the patient. I have subsequently employed a simple contrivance, consisting of a light padded stick placed beneath the patient's knees and attached by means of light straps to canvas bands coming over the shoulder and beneath the arm-pit. The bent knees can be drawn as close as desired and consequently extreme flexion of the spine is obtained. This is desirable for successful puncture and the appliance makes sudden extension on the part of the patient impossible, thus safeguarding against accidents similar to the one reported.

Another fact brought forcibly to mind was the difficulty in finding the fragment of needle, although its approximate position was known. This emphasizes the help that can be derived from a skiagraph, as this showed the needle plainly in its relation to the spine and likewise gave its depth below the cutaneous surface.

It may be added that the patient experienced no ill effects from the presence of this fragment of needle. Shortly after the accident until the time of its removal, he was up and about.

OPSONOTHERAPY IN A CASE OF PUERPERAL SEPSIS

W. C. WOLVERTON, M.D.
LINTON, N. D.

History.—Feb. 3, 1911, I was called to a neighboring village to see Mrs. J. G., a German-Russian woman, quartipara, aged 24 years. This was on the twelfth day of the puerperium. The labor had been attended by a Russian midwife, who, in order (as she thought) to facilitate labor, had stuffed the vagina of the patient full of lard, which latter had stood in an open can in the kitchen for quite a while before being put to this rather remarkable use. It might be well to remark here that the midwife had not been guilty of washing her hands, even with water, before making any of her numerous examinations.

Examination.—When I first saw the patient, February 3, her temperature was 103, pulse 120; she had had chills for several days (it is impossible to get exact data from these people); severe headache; pains in back and limbs; anorexia; nausea and vomiting; in fact, all the symptoms of a profound sepsis. Also, there was a noticeable mitral murmur; no history of previous acute rheumatic arthritis, scarlet fever, etc. could be elicited. The abdomen was bloated, and very tender over the large, flabby uterus. From the vagina issued a stream of foul-smelling pus. Examination did not reveal any retained secundines.

Treatment and Course.—As it was impossible at once to determine the exact nature of the infecting microorganisms, a culture-tube was inoculated with some of the pus, and a "shotgun" vaccine was administered. This vaccine contained 40 million *B. coli*, 30 million *Streptococcus pyogenes*, and *Staphylococcus pyogenes aureus* and *albus*, 100 million of each; this was injected into the subcutaneous tissues of the thigh, so as to have the locally-formed opsonins travel "upstream" toward the focus of bacterial activity, as recommended by Wright. Physiologic saline enemata and douches of compound solution of cresol were ordered to be given every three hours.

February 5, found the subjective symptoms markedly improved; there had been no further chills, and the temperature was lower, pulse less rapid, and headache, nausea, etc., relieved.

Meanwhile, the bacteriologic examination showed the presence of *Streptococcus pyogenes* and *Staphylococcus pyogenes aureus* and *albus*, with the streptococci predominating. No *B. coli* were found.

February 7, I was again summoned, and was told that the patient had had a severe chill. The temperature and pulse-rate had again risen. A vaccine containing *Streptococcus pyogenes*, 60 million, and *Staphylococcus pyogenes aureus* and *albus*, ää 200 million, was injected, and the douches and saline enemata continued as before.

February 12, the patient was again seen, and was found to be so much improved that no further visits were made. On the occasion of this last visit, a dose of vaccine identical with that of February 7 was administered. From this time the patient made an uneventful recovery, and is now in perfect health. The only remedies used internally in this case were calcium sulphid, calomel and soda, and elixir ferri, quininæ et strychninæ phosphatum. During the period of nausea and vomiting, liquid peptonoids were administered per rectum.

This case looked so hopeless at the first visit that I made a prognosis of probable fatal outcome. Also, there was no nurse to care for the patient, and the douches and enemata had to be entrusted to the husband, a Russian not overburdened with intellect. Consequently, the case seemed worthy of note.

The vaccines used were of the "stock" variety. Every time a dose was administered, there was an emphatic response within twenty-four hours.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

LUTEIN TABLETS, H. W. & CO.—Each tablet is said to represent 1.3 Gm. (20 grains) of fully developed corpora lutea.

Actions and Uses.—See Corpus Luteum.

Dosage.—One tablet, three times a day.

Manufactured by Hynson, Westcott & Co., Baltimore. Not patented or trademarked.

QUININE TANNATE—Quininæ Tannas.—Quinine tannate is the tannate of the alkaloid, quinine, containing from 29 to 35 per cent. of quinine.

Quinine tannate may be prepared as follows:

Ten Gm. of quinine sulphate are dissolved in a mixture of 15 Cc. of diluted sulphuric acid and 150 Cc. of water. Twelve Gm. tannic acid are dissolved in 75 Cc. water and the filtered solution poured slowly and with constant stirring into the solution of quinine sulphate. Three Gm. tannic acid are then dissolved in 50 Cc. water and 3 Gm. sodium bicarbonate dissolved in 50 Cc. water. These solutions are filtered, the filtrates mixed, and the mixture poured slowly and with constant stirring into the quinine-tannin mixture prepared as above described. The precip-

itated quinine tannate is allowed to stand for 24 hours. It is then poured onto a muslin filter, washed with 100 Cc. water and expressed with moderate pressure. The expressed mass is then transferred to a porcelain dish, 50 Cc. water added and the mixture heated on the water bath until the quinine tannate melts to a resin-like mass. The supernatant liquid is poured off, the mass cooled, dried in the air and pulverized.

Quinine tannate is an amorphous, pale lemon-yellow to yellowish-white, odorless powder without taste, or at most slightly bitter, and with scarcely any astringency. It is slightly soluble in water, ether and chloroform, but somewhat more soluble in alcohol. Its aqueous and alcoholic solutions are colored bluish-black by ferric chloride test solution. Quinine tannate melts on heating in a glass tube to a purplish, tar-like material.

If 1 Gm. of quinine tannate be shaken with a mixture of 50 Cc. of water and 1 Cc. nitric acid and the mixture filtered, a portion of the filtrate should not become more than slightly opalescent after the addition of 1 Cc. of silver nitrate test solution; nor should there be any darkening after the addition of 1 Cc. of hydrogen sulphide test solution; nor should a portion be rendered turbid immediately by barium chloride test solution.

If from 0.5 Gm. to 1 Gm. of quinine tannate be mixed with 25 Cc. water and an excess of ammonia water, the mixture extracted with 3 successive portions of 20 Cc. each of chloroform, the total solvent washed with water and evaporated, the weight of residue obtained after drying at 100° C. should correspond to from 29 to 35 per cent. of anhydrous quinine. If this residue be dissolved in 30 Cc. of water by the aid of a few drops of diluted hydrochloric acid and 1 Cc. of the solution be mixed with 20 Cc. of water and 2 or 3 drops of bromine test solution, the mixture should assume a green coloration on the addition of ammonia water.

If 0.2 Gm. quinine tannate be ignited no weighable residue should be obtained.

If from 0.5 Gm. to 1 Gm. quinine tannate be dried at 100° C. to constant weight the loss should not correspond to more than 10 per cent. of the weight of substance taken.

If 2 Gm. of quinine tannate be shaken with 3 successive portions of 25 Cc. each anhydrous ether, the solvent poured through a filter, the filter washed with 10 Cc. of the solvent, the several filtrates united, evaporated and the residue dried to constant weight at 100° C. the weight of the residue should not exceed 0.005 Gm. (limit of *uncombined alkaloid*).

Actions and Uses.—Quinine tannate has the action of other salts of quinine but on account of its insolubility its action is less certain than the more soluble quinine salts. Its lack of bitterness renders it a suitable preparation for administration to children.

Dosage.—Inasmuch as quinine tannate contains but about half as much alkaloid as quinine sulphate its dose is proportionately greater.

Non-Proprietary Preparations:

Quinine tannate, N. Y. Q.—Manufactured by the New York Quinine and Chemical Works, New York, N. Y.

Quinine tannate, Brunswick.—Manufactured by the Brunswick Chemical Works, Brunswick, Germany (Mallinckrodt Chemical Works, St. Louis, Mo.).

Quinine tannate, P. W. R.—Manufactured by Powers-Weightman-Rosengarten Co., Philadelphia, Pa.

Therapeutics

PRESCRIPTION-WRITING

(*Continued from page 1208*)

CHAPTER III.—WEIGHTS AND MEASURES

It is not necessary to describe here the old system or to give its tables of weights and measures, as they occur in every book on prescription-writing, but some tables of approximate equivalents to the metric system will be offered. Exact equivalent tables are a delusion and only tend to befog and discredit the metric system. When it is remembered how the doses of drugs vary, it will be recognized how absurd it is to figure an equivalent to its finer determinations.

It is not necessary to declare that the decimal (metric) system of prescription-writing is the better, because the fact is recognized by all and the only hindrance to its use is the supposed difficulty of mastering it. Science of all countries and even our own Pharmacopeia has adopted it. If the novice in the use of the metric system in prescription-writing will remember that it is a decimal system like our monetary system, that everything on the left of the decimal point or line represents grams or cubic centimeters [dollars], that everything on the right of the decimal line represents centigrams, milligrams, or fractions of a cubic centimeter [cents and mills], he will soon understand the system. For instance:

	gm.
$1.25 or 1 gram and 25 centigrams	= 1.25
$1.001 or 1 gram and 1 milligram	= 1.001
$0.50 or ½ gram or 50 centigrams	= .50
$0.05 or 5 centigrams	= .05
$0.005 or 5 milligrams	= .005
also	c.c.
$1.25 or 1¼ centimeters	= 1.25
$1.001 or 1 1/1000 centimeters	= 1.001
$0.50 or ½ of a centimeter	= .50
$0.05 or 5/100 of a centimeter	= .05
$0.005 or 5/1000 of a centimeter	= .005

In this country it is customary in writing prescriptions in the metric system to write for solids in terms of grams and fractions of grams, and for liquids in terms of cubic centimeters or fractions of cubic centimeters. The same decimal line which should be ruled on the prescription blank answers for both solid and liquid metric measures, and precludes all possibility of careless decimal mistakes, as:

gm.
c.c.
|

The following table is self-explanatory. It, as well as much other matter below, is taken from Osborne's "Introduction to Materia Medica and Pharmacology."

			gm.	
"A gram is written	1.	gm. or	1.	and read 1 gram.
A decigram is written	0.1	gm. or	.10	and read, best, 10 centigrams.
A centigram is written	0.01	gm. or	.01	and read 1 centigram.
A milligram is written.	0.001	gm. or	.001	and is read 1 milligram.
			c.c.	
A cubic centimeter is written	1 c.c.	or	1	and read 1 cubic centimeter.

As above declared, it is useless to translate the old system into exact equivalents of the new system. One must compute the doses in the new system; one must forget the size of stock bottles and order amounts of liquids in multiples of five, as 15 c.c., 25 c.c., 50 c.c., 100 c.c., or 200 c.c.; one must remember that 5 c.c. is a teaspoonful dose; i. e., an ordinary teaspoon holds 5 c.c. and not 4 c.c. or a liquid dram; in other words, *every* prescriber in the old system has *always* given a larger dose than he intended when he computed the dose by fluidrams and then administered a teaspoonful; one should remember that the drop, so much used in prescribing strong liquid preparations, is as correct in the new system as in the old. All of these suggestions must be followed out to use the metric system successfully.

TABLE OF THE APPROXIMATE EQUIVALENTS OF THE TWO SYSTEMS

	gm., c.c.	
1 grain (gr.i) = approximately	0.065	= 65 milligrams = 1 grain.
1 minim (♏i) = approximately	0.065	= 65/1000 of a cubic centimeter = 1 minim.
15 grains (gr.xv) = approximately.	1	= 1 gram = 15 grains.
15 minims (♏xv) = approximately.	1	= 1 cubic centimeter = 15 minims.
1 dram (℥i) = approximately	4	= 4 grams = 1 dram.

1 fluidram (fl.ʒi)	= approximately 4	= 4 cubic centimeters = 1 fluidram.
1 ounce (ʒi)	= approximately.....30	= 30 grams = 1 ounce.
1 fluidounce (fl.ʒi)	= approximately.30	= 30 cubic centimeters = 1 fluidounce.

1 quart = approximately 1000 c.c., or 1 liter.
1 pint = approximately 500 c.c.
1 teaspoonful = approximately 5 c.c."

It is always a good plan to use a stub prescription blank, and on the stub the individual doses may be written. This is another check on mistakes and also preserves for reference the exact dose given on the exact date, as:

Stub (one dose)		Prescription for 20 doses		
			gm.	Old
℞		℞	c.c.	system
Strych. sulph.	.001	Strychninæ sulphatis..	.02	gr.1/3
Ferri reducti.	.05	Ferri reducti.....	1 or	gr.xv
Quin. sulph...	.10	Quininæ sulphatis....	2	gr.xxx
M. et F. cap.		M. et F. capsulas 20.		
Sig.: t.i.d., p.c.		Sig.: A capsule 3 times a day, after meals.		
Name.				
Age.				
Date.				

Or,

Stub (one dose)		Prescription for 20 doses		
			gm.	Old
℞		℞	c.c.	system (approximately)
Codein. sulph..	.01	Codeinæ sulphatis..	.20	gr.iv
Ammon. chlor.	.25	Ammonii chloridi ..	5	ʒiss
Syr. acid. cit..	1.25	Syrupi acidi citrici.	25	fl.ʒi
Aquam ....*ad*	5.	Aquam .....*ad*	100	*ad* fl.ʒiv
M.		M.		
Sig.: 5 c.c.q. 2 h. in H_2O.		Sig.: A teaspoonful, in water, every two hours. *Shake.*		

It is well to use the Arabic numerals instead of the Roman in the new system, as:

℞
Pilulas rhei compositas No. 20.
Sig.: One pill after supper.

Stub (single dose)		Prescription		
			gm.	Old
℞		℞	c.c.	system
Tr. digitalis.		Tincturæ digitalis...	25 or	fl.ʒi
Sig.: 10 drops in H_2O b.i.d., p.c.		Sig.: Ten drops, in water, twice a day, after meals.		

Stub		Prescription		
			gm.	Old
℞		℞	c.c.	system
Ung. hg. ammon.		Unguenti hydrargyri ammoniati	10 or	
Petrolati ....ää	10	Petrolati	10	ää ʒiiss
M.		M.		
Sig.: Externally.		Sig.: Use externally as directed.		

CHAPTER IV.—INCOMPATIBILITY

This is prevented only by great care and simplicity. Too many drugs should not be prescribed. Too many solutions should not be combined. Too many drugs and too much medicine should not be given to one patient on any one or two days. Many drugs are accumulative and many of their physiologic activities are antagonistic. Drugs may be incompatible *therapeutically, chemically and pharmaceutically.*

Therapeutic incompatibility occurs when drugs are combined which have antagonistic physiologic actions.

Chemical incompatibility occurs when from the combination of two or more drugs a new and undesired chemical compound results.

Pharmaceutic incompatibility occurs when drugs are combined which form, either immediately or later, cloudy, precipitated or decomposed solutions.

An educated physician should be ashamed to perpetrate a therapeutic incompatibility either in a prescription or in a patient. It is not therapeutic incompatibility, however, to modify a too decided action of a drug with one that corrects an undesired effect. This is a part of therapeutic science.

Pharmaceutical incompatibility is so closely related to chemical incompatibility that many times both are governed by the same rule. Such incompatibility is difficult to avoid, and therefore it is advisable to adopt simplicity in prescription-writing; this is really a therapeutic gain.

Below is given an alphabetical list of drugs comprising those that should generally be given alone, especially in solutions. The chemical reasons are appended:

Acids, unless very dilute and in small amount, should be prescribed alone. They combine with bases to form salts, and are incompatible with oxids, alkalies, alkaline salts, hydrates and carbonates. They all precipitate albumin.

Alkalies and alkaline carbonates should rarely be prescribed in solution with other drugs. They form salts with acids and precipitate many metallic and alkaloidal salts.

Alkaloidal salts should rarely be combined with other drugs in solutions. They are precipitated by alkalies, alkaline carbonates, earthy carbonates, preparations containing tannic acid, and by iodids in solution.

Antimony and potassium tartrate (tartar emetic) should be prescribed in solutions alone. It is incompatible with acids, alkalies, tannic acid, and preparations containing tannic acid.

Arsenic (arseni trioxidum, arsenious acid) should generally be prescribed in solutions alone.

It is precipitated by salts of iron, magnesia, and solutions of lime.

Bromids in solution should not be combined with alkaloids. They precipitate the salts of morphin, quinin, and strychnin from neutral solutions.

Ferric and ferrous salts should generally be prescribed alone. They are incompatible with tannic acid and all drugs containing it; with alkaline carbonates, ammonia, and acacia.

Iodids should generally be prescribed alone.

They are incompatible with salts of alkaloids and metals and with mineral acids.

Mercuric chlorid (corrosive sublimate) should generally be prescribed alone. It is incompatible with many drugs.

Mercurous chlorid (calomel), though insoluble, had best not be prescribed in mixtures. In solutions containing chlorids it may be converted into the mercuric salt.

Resins, including oleoresins, and fluidextracts and tinctures containing resins, should not be prescribed in watery solutions, though they may be ordered in emulsion by suspending them with the mucilage of acacia or tragacanth.

They are all precipitated by water.

Silver nitrate solutions and solutions of all silver salts must be ordered alone; and kept in dark bottles. If silver salts are prescribed for internal administration they must be alone or combined with some earth, and given in capsules.

Strophanthus in the form of the tincture should not be prescribed in solutions containing water.

It slowly forms a toxic substance, when in watery solution.

Spirits (spiritus), except sweet spirits of niter, whisky and brandy, should mostly not be prescribed with watery preparations. They become cloudy on the addition of water.

Tannic acid, and all drugs containing tannic acid, should not be prescribed with most drugs. They are incompatible with alkaloids, salts of iron, lead, silver and antimony.

(To be continued)

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ANAPHYLAXIS AND THE ONSET OF LABOR

The problem of the onset of labor has long been a favorite subject of conjecture, and of the theories invoked to explain it there is no end; hence it was to be expected that sooner or later the results of modern immunologic work would be brought to bear on this question. In a recent article, von der Heide[1] presents some experimental results and deductions from them, which apparently serve to explain the problem on this basis.

It had previously been observed in the case of twin girls, united like the classical Siamese twins, that during the pregnancy of one, the other as well showed the secondary symptoms; but that during parturition, the non-parturient felt no inconvenience. White rats artificially united to pregnant companions, on the other hand, suffered no disturbance until the onset of labor, when they became very sick and occasionally died. Those most likely to survive were found to be those united longest to their fellow. Inasmuch as such work pointed unmistakably toward the discharge of toxic substances with antigenic properties into the blood of the mother, with a presumable development of antibodies, von der Heide undertook to study the problem by means of the blood itself. His first work, consisting in the injection of blood from parturient women into women in advanced pregnancy, was without result. Thereupon he tried the injection of fetal blood in similar cases, and with this a certain proportion gave definite reactions. In four cases labor pains, previously absent, followed more or less directly after the injection of the serum, usually within three or four hours, and continued to delivery. In two instances, only 2 c.c. of serum were needed; in one, no result occurred until after a second injection. In three other cases, transitory pains followed; eight gave completely negative results. Injections during weakening pains in actual labor resulted in their renewal in six instances. The effect on the pains was usually preceded or accompanied by a transient rise in temperature and pulse-rate.

The explanation of these results, von der Heide believes, is to be sought in the direction of a gradual liberation of fetal products into the maternal circulation during pregnancy, and the formation of antibodies to these. Toward the end of pregnancy an excessive amount of this fetal antigen enters the mother's blood, and the reaction between this and the antibodies previously formed sets free labor-inducing substances, i. e., gives an anaphylactic reaction, resulting in the onset of labor.

Viewed in this light, it is easy to see why the injection of fetal blood should induce pains, while that of parturients would be without effect unless given in very large doses, because of the dilution of the fetal products in it. And while the symptoms of labor are by no means typical of anaphylactic shock, the conditions of sensitization and reaction would be different enough between the two to afford a satisfactory explanation of this. Incidentally, many of the minor phenomena of pregnancy point toward an anaphylactic condition—the frequency of urticaria, of albuminuria, of vomiting, the peculiar action of narcotics. Eclampsia itself has many of the features of acute anaphylactic shock.

It is, of course, too early to pass judgment on this theory in the light of our present limited knowledge both of anaphylaxis and of the causes underlying the onset of labor. Further work must be done to test its validity; but whether or not it will stand this test, it will at least have had the merit of bringing into the center of interest an obscure but important physiologic problem.

1. Von der Heide, A.: München. med. Wchnschr., 1911, lviii, 1705; abstr. in THE JOURNAL, Sept. 29, 1911, page 1090.

ANTIFAT AND SOCIETY WOMEN

Under the display heading "Antifat Drug a Peril: Many Newport Society Leaders Suffer From Using Preparation," an eastern newspaper prints the following "special" from Newport, R. I.: "Every now and then it is reported that a Washington, New York or Philadelphia or Boston or western woman, who has been a shining light in society here, is in bad health, and it is the proper thing to say she has broken down under the strain of her social duties. But it became known to-day that the poor health of some women who have broken down here has been caused by the use of a dangerous antifat drug, with which fashionable women in Europe first experimented. Women in Newport have been using this drug ever since fashion decreed that a truly fair one must be slender. So threatening have been the consequences of using it that these women have abandoned the drug. Physicians are treating them to restore the normal tone of their systems, and they gladly submit to medical treatment, even at the risk of regaining their stoutness."

It would be interesting to know the name of the "antifat" the ladies of this aristocratic colony are using. It is quite probable that it is one supplied by some of

the mail-order quacks, the main ingredient of which is thyroid. This drug is so much more effective as a fat-reducer than any of the older ones that it has practically replaced the latter. But like most effective drugs it has its dangerous side. A few years ago when Germany placed strict restrictions on the sale of thyroid it was common gossip that this action was accelerated by the fact that some of the first ladies of that country had had an experience similar to that reported from Newport.

Thyroid is stated to be used more extensively as an antifat than for any other purpose. It is used as such and, as some of the Washington officials have found, as an ingredient of many patent medicines. It would be well for physicians to make inquiries on this subject when consulted by obese patients complaining of sleeplessness, nervousness, palpitation, gastric disturbances, etc.; patients are not very likely to volunteer the information that they have been taking thyroid and still less that they have been patronizing some mail-order house. In fact, we have heard of patients who recognized that their troubles were due to a drug of this class and who thought it "a joke on the doctor" because he had not suspected it.

The use of thyroid in obesity is not only accompanied by a certain degree of danger, especially if the patient is not under constant medical supervision, but it is in most cases an illogical form of treatment. It is now recognized that it is unsafe to make any material reduction in the diet, except in the fat, during a course of treatment; otherwise there will be a loss of body protein as well as of fat, and a loss of protein seems to be closely associated with the untoward symptoms often observed. In other words, in a safe reduction cure by thyroid more food than the body needs is taken; this excess and some of the body's own fat is burned up under the influence of the thyroid. The organs are thus forced to do an unnecessary amount of work.

In diet cures, on the other hand, as Chittenden for example has shown, the diet may be greatly restricted (even to two-thirds of the body's requirements) and a considerable amount of fat lost without any danger to the body protein.

Although in most cases of obesity, treatment by thyroid is essentially illogical and treatment by diet and exercise logical, there will always be patients who will refuse to follow instructions as to the latter; in such cases and in certain others which do not yield readily to a diet-cure (cases of "constitutional obesity"), thyroid may be used, but it should never be placed in the patient's hands without careful supervision. Patients should also be warned that the fat will promptly return after the thyroid treatment unless they learn to regulate their diet and exercise properly, and emphasis should be laid on the fact that in almost every case the obesity is due simply to over-eating or to lack of exercise or to a combination of these.

VEGETABLE JELLIES AND MUCILAGES AS FOODS

The food-value of various mucilaginous and gelatinous plant substances has been highly appraised by the layman and by most physicians for untold years. In some countries, notably Japan, Turkey and Hawaii, such substances are staple articles of diet; in Scotland and Ireland the dulse is a favorite food. Clinicians have frequently tried various articles of this class, especially as substitutes for starches and sugar in diabetes; and Iceland moss is found in drug-stores as a standard article of commerce, being sometimes used as a delicacy for consumptives, who are expected to secure much benefit from its digestibility and its reputed high nutritive value. The United States Dispensatory itself goes on record to the effect that the mucilaginous extract of slippery elm bark, and also the Turkish salep, are highly nutritious. It is strange that, in spite of the prevalence of the use of lichens, algæ, and other gelatinous or mucilaginous vegetable substances as food, their real nutritive value has not received previously any serious investigation; hence a recent extensive study of ten articles of this class by Dr. Mary D. Swartz[1] is all the more to be appreciated.

Most of the carbohydrates of the vegetable substances under consideration belong to the hemicellulose group; that is, they are not converted into sugar by diastase, but are readily hydrolyzed by dilute acids. According to the sugars they yield on hydrolysis they are designated as pentosans, dextrans, mannans, galactans, etc. Thus agar-agar is a galactan, since it is composed of molecules of galactose united through dehydration and readily separated by hydration with acids; Irish moss also contains a galactan, while Iceland moss contains chiefly dextrans, dulse is rich in pentosans, and the gelatinous material of salep is a mannan. Cellulose itself is a dextran, and were it as readily hydrolyzed by the digestive enzymes as the starches it would be just as good a food. Unfortunately, at least from an economic standpoint, the human organism does not seem to be provided with enzymes capable of disintegrating cellulose, and so we rely on the hydrolysis by strong acids in the works of the glucose trust to render the fibrous cellulose into its assimilable sugar.

Only recently has the therapeutic importance of the utter indigestibility of some of the hemicelluloses been recognized, and whereas formerly agar-agar and similar substances were put on the market as "vegetable gelatins" of great value as foods, now the same things are sold as laxatives because they are not assimilated at all, and hence greatly increase the bulk and softness of the feces. Of the ten varieties of hemicellulose foods studied by Dr. Swartz, dulse and salep showed the highest

1. Tr. Conn. Acad. Arts and Sciences, 1911, xvi, 247. In more accessible medical literature are two other articles from the same laboratory, viz.: Mendel, L. B.: Das Verhalten einiger unverdaulichen Kohlehydrate in Verdauungstrakt, Zentralbl. ges. Phys. u. Path. d. Stoffw., 1908, No. 17. Mendel, L. B., and Swartz, Mary D.: The Physiological Utilization of Some Complex Carbohydrates, Am. Jour. Med. Sc., March, 1910.

utilization, both of these disappearing entirely from the contents of the alimentary tract. Irish moss, however, was passed out in the feces almost entirely, and the other preparations were recovered to the extent of 40 to 90 per cent. The partial utilization observed must be ascribed to alteration through bacterial action, since no good evidence could be obtained of the presence of diastase capable of digesting these hemicelluloses, and the several varieties disappeared from the intestine in direct ratio to their susceptibility to bacterial decomposition. Whether bacterial disintegration of hemicelluloses yields sugars or products which are utilized by the human body is still another question, to be determined only by careful study of respiratory exchange. In any case these investigations of the food-value of hemicelluloses indicate that most of the forms commonly used for food can give but little nourishment; possibly some varieties have a certain value, but it will be entirely unsafe to rely on one of them for any considerable part of the dietary of either sick or well, until careful investigations have established its actual food-value. With due appreciation of the limits of their nutritive value, they may, of course, be used as gelatinous or mucilaginous bases of food or drink, and as laxatives or as vehicles for drugs under proper conditions.

ERGOT AND THE MANUFACTURER OF PHARMACEUTICALS

Last week we commented on a bulletin just issued by the Public Health and Marine-Hospital Service on the standardization of ergot; this week, under "The Propaganda for Reform" we print the conclusions of this bulletin as they relate to the examination of a number of commercial preparations. Comments on these results are scarcely needed. They show again how little reliance can be placed on the statements of the "great manufacturing houses" in regard to their so-called "ethical" proprietaries and pharmaceutical "specialties." Of course, these houses will raise vigorous objections, doubtless similar to those raised to the reports on epinephrin and digitalis. Some "didn't know"; but they should have known before making such positive claims. All will doubtless complain that the preparations examined were few in number and were old. The preparations were few in number, as the authors state, but it is suggestive that not one of them approached the strength claimed. Possibly some were old, but they are claimed to be "permanent"; at any event they were obtained in the open market, under exactly the same conditions as those under which physicians obtain them every day. Some firms may even go to the length (or depth) that Parke, Davis and Co. did a year or two ago when the Hygienic Laboratory reported on one of their digitalis preparations—digitalone; a physician forwarded to The Journal a letter from this firm in which they said: "We have reason to suspect that these old samples were purposely selected for the test." On that occasion, as on this, the preparations were bought through the regular purchasing departments of the University of Michigan and of the Hygienic Laboratory, and there is certainly no reason for believing that these institutions would receive worse preparations than would a physician.

The plain truth is that although these large firms are perfectly able financially, and probably scientifically, to prepare trustworthy preparations, or if not, are able to learn how to do so, they show an indifference as long as they can sell their products. This strongly suggests that the biologic laboratories maintained by them are mainly for advertising purposes. Surely after several decades of experience they should have learned that their products are not "permanent" and should have adopted the simple and honest expedient of stating the date of manufacture on the label and the period during which the preparations could reasonably be expected to be of therapeutic value; they could have learned the conditions under which the preparations deteriorate and if these were controllable pharmacists could have been instructed accordingly. Yet the facts are that one of the chief claims made for practically all the proprietary preparations of ergot is that of permanency! As usually happens in such cases, the firms which lay the greatest stress on some particular quality of their proprietary preparations are the very ones whose products are found to be most lacking in that particular quality. So, in this instance, the firms whose claims for the permanency of their preparations are most conservative are the ones whose products come nearest to measuring up to the desired standard; while those concerns whose proprietaries are the least dependable are the ones that make the most vociferous claims for permanency and reliability.

The Council on Pharmacy and Chemistry was organized to help physicians discriminate between trustworthy and untrustworthy drugs, and manufacturers who had preparations which they were willing to have submitted to examination, for inclusion in New and Nonofficial Remedies, were invited to submit them to the Council. These studies again justify the distrust with which many of the better-informed physicians regard products which are not in New and Nonofficial Remedies.

Unfortunately the Food and Drugs Act in its present form does not permit the government to proceed against firms or individuals who place on the market misbranded drugs of this character; hence physicians are dependent on the work which their representatives on the Council on Pharmacy and Chemistry, in the Association Laboratory, and in the Hygienic Laboratory, can do for them. The Association proposes to continue this work; it also trusts that the Hygienic Laboratory will continue to help the physician and public by further work of this character and that its activities will not be hampered by lack of appropriations and by the kind of red tape which has temporarily almost paralyzed the Bureau of Chemistry of the Department of Agriculture.

Current Comment

INVIDIOUS COMPARISONS BY THE BORAX PEOPLE

The borax trust is still spending a good deal of money sending out letters through its press-agent, "H. L. Harris." At this time it is trying to offset the splendid tributes which the American press has paid to Dr. Wiley in the last few weeks. If this "Harris" letter went no further than to damn the Bureau of Chemistry and its chief, we should not take the trouble to refer to the borax people again. But incidentally it panegyrizes the Bureau of Animal Industry, the department that has charge of examining the meat-supplies of the country. And now comes the *National Provisioner* of New York, also unfriendly to Dr. Wiley, with a long editorial criticizing the chief of the Bureau of Chemistry and praising the Bureau of Animal Industry. The argument seems to be that while Dr. Wiley's bureau has not had a placid and uneventful career, the Bureau of Animal Industry runs on "without friction." As the public loves Dr. Wiley for the enemies he has made, so it will regard the Bureau of Animal Industry with suspicion on realizing who are the friends of that bureau. As a general proposition, any government department which stands between organized greed and the public health will inevitably develop "friction" if it works in the interest of the public. Conversely, when such a piece of governmental machinery is working without friction it behooves the public to inquire closely into the source that is furnishing the lubricant. It is not altogether true that the Bureau of Animal Industry has been free from criticism. It will be remembered that a year or so ago some ugly charges were preferred against some of the government officials in this department relative to the inefficient way in which the meat-supply at St. Louis was inspected. In this case, however, the criticism was not that the government was hurting "business interests," but that it was not giving the public the degree of protection against diseased meat for which that bureau is supposed to exist! All things considered, any invidious comparisons between the Bureau of Chemistry and the Bureau of Animal Industry will be likely to react to the detriment of the latter, whose chief may be tempted to cry: "Save me from my friends!"

THE TREATMENT OF RHUS POISONING

The publication in THE JOURNAL[1] of several communications on the treatment of ivy poisoning, and the inefficacy of the methods currently employed for the alleviation of this distressing condition, may justify reference to the properties of the toxic agent and a rational procedure to eliminate its effects. The leaves and flowers of the poison ivy plant yield a poisonous tar which is soluble in both alcohol and ether and has been extensively investigated by Acree and Syme[2] in Baltimore. The familiar method of treating the skin eruption consists in the use of an alcoholic solution of acetate of lead. This is most unsatisfactory, as Acree and Syme have pointed out, because the action of the remedy "consists in depositing an unstable lead salt of the poison in the skin, where the conditions of moisture and temperature are favorable for its decomposition, liberating the poison with all its irritant properties." There is great difficulty in reaching the poison which has permeated the skin (hence the presumable efficacy of the vigorous "scrubbing" advocated in one of the communications to THE JOURNAL[1]). One must assume, despite the reports alluded to, that the use of both alcohol and ether solutions is to be avoided, because they act as solvents and may thus serve to spread the poison over large areas—unless perhaps they are used in sufficient quantities to wash away the dissolved poison. A correspondent in this issue suggests the use of rubber gloves to avoid spreading the poison. Acree and Syme have found that potassium permanganate completely oxidizes the poison. This has furnished the basis for a rational method of treatment repeatedly tested and found by them to effect a speedy cure. The part affected is immersed in, or bathed with, a solution of potassium permanganate as hot as can easily be borne. Where the skin is broken, dilute solutions (1 per cent.) should be used; otherwise the concentration may be varied according to the location and condition of the eruption. A little dilute alkali or sulphuric acid is advantageously added to the permanganate solution; the oxidizing power is greater in the acid solution. In rare instances, when the poison is present deep in the skin, it should be exposed to the action of the permanganate for a considerable time. The dark stain produced by the permanganate will wear off or can be removed by vigorous scrubbing with soap; or it can be dispelled at once by a warm solution of oxalic acid (with due precaution). The extremely rare cases of systemic intoxication through entrance of the poison directly into the circulation obviously require special constitutional treatment.

1. THE JOURNAL A. M. A., Sept. 30, 1911, p. 1151; Oct. 14, 1911, p. 1304.
2. Acree and Syme: Jour. Biol. Chem., 1907, ii, 547.

WILL ILLINOIS BE EASY?

S. R. Chamlee, M.D., is a cancer-cure faker whom Samuel Hopkins Adams characterized as "a scoundrel who endeavors to frighten women into taking his treatment by advertising in the papers, 'in woman's breast any lump is cancer.'" For some years Chamlee carried on his nefarious trade at St. Louis, Missouri. Nemesis, in the form of post-office fraud order, finally overtook him and closed the mails to him.[1] He attempted to evade the law by changing the name of his business to the "St. Louis Sanitarium Company" and by instructing his prospective victims to send their money "through an express company" and not by post-office money order, because he could not cash the latter. The post-office extended its fraud order to the "St. Louis Sanitarium Company" and this irrepressible quack assumed another name, the "United Specialist Cancer Cure Company." The post-office, in time, still further extended its order. All this happened in the latter part of 1909. For a year or more the magazines and newspapers have been free from Chamlee's advertisements. Within the last month or two, however, Chamlee has again commenced adver-

1. This case was referred to in THE JOURNAL A. M. A., Jan. 15, 1910, and a full account appears in "Nostrums and Quackery," page 31.

tising. But he has changed his headquarters; instead of operating from St. Louis he is now in Chicago. The advertising matter, "form letters," pamphlets, etc., that Chamlee now uses are apparently identical with those which he used in St. Louis. Chamlee has no license to practice in Illinois—although, we believe, he is licensed in Missouri and Iowa. For this reason, in order to keep within the law, it is necessary for him to employ some renegade physician who is licensed. This, apparently, he intends to do, for the following advertisement appeared in the Chicago *Tribune* a week ago:

> PHYSICIAN — FINE LOOKING, NO OTHER, NO smoker; must be quite gray and move to Oak Park. Write fully with new photo, or call 36 W. Randolph St., Dr. Chamlee, Room 308.

Oak Park is a suburb of Chicago and, while Chamlee's mailing address is in the down-town district of Chicago, he sends out his "literature" from Oak Park. Chamlee is apparently just as big a fraud to-day as he was two years ago. The question arises: Will the federal authorities make things as interesting for him in Illinois as they did in Missouri?

NEWSPAPER ETHICS

The *Daily Tribune* is the name of a newspaper published in Goldfield, Nevada. A few days ago the *Tribune* received a letter from a notorious quack of Portland, Oregon, one T. J. Pierce, asking for quotations on two classified advertisements to appear in the personal column. One of the advertisements was of "Sexoid—a marvelous cure for weakness in men;" the other was for "Sanderson's Cotton Root Pills—safe and sure cure for delayed periods." Pierce doubtless imagined that in a mining community like Goldfield "everything goes" in the way of advertising; and he must have been surprised to learn from the business manager of the Goldfield *Tribune* that "the advertising in question does not conform to the policy of this newspaper in its advertising department." We commend the advanced and enlightened attitude of the Goldfield *Tribune* to several Eastern newspapers whose claims to culture are as pretentious as their business morality is inferior.

THE RIGHT OF SOCIETIES TO REGULATE MEMBERSHIP

In another department[1] appears an abstract of a recent decision by the Supreme Court of the State of New York, in the case of Ewald against the Medical Society of the County of New York, in which the court holds that a member of a medical society cannot by injunction prevent the society from trying him on charges preferred against him. In this case, after the charges were preferred, and before the trial, the plaintiff sent in his resignation, but as the by-laws of the society provided that no resignation could be accepted from a member under charges, the court held that the defendant society had a right to ignore the resignation and to proceed to discipline its member according to its by-laws. The court further says that a member joining a professional society assumes an obligation not only to conform to the rules of the society, but also to observe its standard of professional ethics, and that, having voluntarily become a member of such an organization, he is bound by his act to submit to its rules and conform to its standards. Practically, the decision in this case amounts to an affirmation of the right of a professional organization to enforce its professional standards, and to discipline its members, so long as it acts in accordance with its own by-laws and proceeds in a legal and orderly manner.

1. Medicolegal Department, p. 1316, this issue.

A NATIONAL DEPARTMENT OF HEALTH

In the Medical Economics Department of THE JOURNAL appears an extract from a recent editorial in *La Follette's Weekly*. The daily press, for several days past, has contained dispatches from Washington, regarding the efforts to be made at the coming session of Congress to secure the passage of Senator Owen's Senate Bill or some similar measure providing for a national department, or an independent bureau, of health. It seems fitting, at the present time, to call attention to a few errors into which, apparently, some persons and organizations have fallen regarding this proposed department of health. 1. The American Medical Association is not a "medical trust." To intelligent and thinking people, such a statement is not necessary. It is a national professional organization of scientific men, endeavoring to be of service to the people and to elevate the standard of medicine. It could not "establish a monopoly" of healing if it desired to do so, and it would not if it could. It would limit the right to care for the sick to those who have sufficient knowledge of the human body to assume such a responsibility with safety to the patient and the public. And in this aim it should have the support of all right-thinking people. 2. A national department of health would exist for the study and prevention of human diseases, and not for the treatment of individual patients. Many sincere but misinformed persons have opposed such action on the part of the federal government because they have not distinguished between disease and the person afflicted with the disease. A national department of health would study diseases, their cause, method of transmission and prevention, just as the Department of Agriculture investigates seeds, soils, crops and animal and vegetable diseases. It would have no more authority over the individual invalid than the Department of Agriculture now has over the individual farmer. 3. One of the favorite arguments made against a national department of health is that it would establish a "state school of medicine" and would limit the practice of medicine to a certain class. This argument, of course, is absurd. The establishment of a Department of Agriculture has not resulted in a state school of agriculture, nor has the establishment of a Department of Commerce and Labor brought about a state school of business or labor. Furthermore, every competent lawyer knows that the regulation and restriction of the practice of medicine, like that of any other profession or calling, is a function of the individual state and not of the national government. Congress has no right to say, and could not say, who shall or shall not practice medicine in Illinois or New York or Cali-

fornia. Each state must settle this question as it sees fit. 4. The American Medical Association is not responsible for the bills recently introduced into the senate; they were prepared by Senator Owen, on his own initiative. The American Medical Association is naturally in favor of such a bill and will do all in its power to secure its passage, but the credit of originating it is due to Senator Owen. The American Medical Association has urged such legislation for over twenty years. It will continue to urge it and to do everything it can to secure it, now and in the future, until Congress shows the same regard and gives the same care to human life that it now gives to that of the animal, to crops and produce, to banks and business concerns, and to the innumerable material interests of the people which the federal government now safeguards. The objections urged against this measure are either figments of the imagination, held by sincere but misguided and prejudiced persons, or specious and fallacious objections raised by those having a selfish interest in the perpetuation of existing conditions. The misguided must be enlightened and the selfish objectors must be exposed. The more discussion there is on this important subject, the better. The more thoroughly the plan is understood, the clearer will its advantages be seen, and the sooner will it become a reality.

Medical News

ALABAMA

New Throat Clinic.—A free clinic for examinations of the throat will be held on Tuesday and Thursday afternoons from 2:30 o'clock, by Dr. William Grace Harrison, Birmingham, in charge of that branch of the work of the Birmingham Antituberculosis League at the dispensary of the league, Room 424, Chamber of Commerce Building. The dispensary is also open for the examination of tuberculosis patients on Mondays, Wednesdays and Fridays, from 1:30 to 2:30 p. m.

CALIFORNIA

Bubonic Plague Near Ripon.—M. E. Sawyer of the State Board of Health and Dr. George W. McCoy, U. S. P. H. and M.-H. Service, are said to have verified the diagnosis of the local physicians in the case of Angel O. Bianchi, suffering with bubonic plague, on the Brown ranch near Ripon.

Donation to Medical Library.—Announcement has been made by the board of trustees of Leland Stanford, Jr., University, Palo Alto, of a gift of $10,000 made by Dr. Adolph Barkan, San Francisco, professor emeritus of the medical school, for the establishment of a special library dealing with diseases of the eye, ear, nose and throat. A gift of $5,000 from Charles G. Stanford for medical library purposes was also announced.

Personal.—Dr. Eleanor C. Seymour, resident physician of the Pacific Hospital, Los Angeles, has been appointed bacteriologist in the state hygienic laboratory, Berkeley.——Dr. M. Antoinette Bennette, San Bernardino, superintendent of nurses at the Los Angeles County Hospital, has resigned.——Dr. Emil O. Jellinek, San Francisco, has returned from Europe.——Dr. Irving R. Bancroft, assistant health commissioner of Los Angeles, has resigned to become physician of the board of education.

COLORADO

Personal.—Dr. Mary E. Phelps, Canon City, has returned after a year abroad.——Dr. Frank B. Stephenson, Marble, has moved to Denver, and Dr. Minerva M. Knott, Canon City, has returned to her former location at Sedalia, Mo.

Milk Consumers Protected.—Milk consumers in Colorado will be protected by the publication of names of owners who refuse to have their cattle tested for tuberculosis. There is no law in the state providing for the condemnation of diseased animals.

Public Drinking-Cup Removed.—The State Board of Health has ordered the removal of public drinking-cups from public school buildings in the state.

ILLINOIS

Personal.—Dr. Carl J. F. Rochow, Rock Island, has returned from Europe.——Dr. James Harry Pittman, Camp Point, while hunting, accidentally shot off one toe of his right foot.——Dr. Samuel M. Barnes, Fairbury, who is ill in St. Luke's Hospital, Chicago, is reported to be in critical condition.——Dr. John E. P. Butz, Potomac, who recently underwent a surgical operation at the Augustana Hospital, Chicago, is reported to be convalescent.

State Board Exhibit at State Fair.—The Illinois State Board of Health had an interesting and instructive exhibit at the state fair last week; a large electric sign in front of the booth which read as follows: "Every time a light goes out, some one in the civilized world dies from consumption—2 every minute, 120 every hour, 2,880 every day, 1,000,000 every year," and emphasized by the automatic extinguishment every thirty seconds of the red electric lamps which bordered the sign, conveyed graphically to visitors the frequency of deaths from tuberculosis. This was still further emphasized by the use of a doll changing into a skeleton every half minute. The exhibit also showed the contrast between sanitary and unsanitary rooms, the right and wrong way of disinfecting houses after contagious diseases, microscopic specimens, the means of transmission of typhoid fever, diphtheria, etc.

Chicago

Personal.—Dr. Anna Dwyer has been reelected high medical examiner of the Women's Catholic Order of Foresters.——Dr. and Mrs. Eugene S. Talbot and Dr. Harry Jackson have returned from Europe.

County Board Buys Hospital Site.—The Cook County Board on October 3 decided to purchase for an emergency hospital the property at 4431-33 South Halsted Street, improved with a three-story brick structure about ten years old.

"Typhoid-Carrier" Freed.—Miss Rosie E. Pell, the alleged typhoid-carrier, on October 2 was given a permit by the Chicago Health Department to return to the house of her stepfather, Gilbert Boersma, a dairy farmer at Mount Greenwood, who sells milk in Chicago. She goes back to the farm on the understanding that she is to have nothing to do with the handling of milk.

KANSAS

Personal.—Dr. W. L. Gleason has succeeded to the practice of Dr. Charles F. Kyser, Conway Springs. Dr. Kyser is reported to be seriously ill in St. Francis Hospital at Colorado Springs, Colo.——Dr. John D. Horne, Coffeyville, is confined to his home, as a result of cerebral hemorrhage.——Dr. George H. Matchette has been elected a director of the McPherson Hospital.——Fire in Greenleaf, September 5, destroyed the office of Dr. Z. Hosea Snyder, who suffered a loss of $5,000.——Dr. William W. Minick has been elected mayor of Wichita.——Dr. James Stewart has been appointed city physician of Topeka.——Dr. Ansel M. Edison, Topeka, has retired from practice and will make his home in La Porte, Tex.——Dr. Mortimer Marder, police surgeon of Kansas City, has resigned.

MARYLAND

Herter Memorial Meeting.—The medical faculty of the Johns Hopkins University and other friends met October 5 to commemorate the life and work of the late Dr. Christian A. Herter, New York City, who with his wife founded the Herter lectureship.

Baltimore

Home from Europe.—Drs. James J. Mills, William S. Thayer, Joseph E. Gichner and Lewellys F. Barker have returned from Europe.

Typhoid Vaccin Adopted.—Typhoid vaccin is to be used in the state institutions by decision of the state board of health published October 5.

Kossel Entertained.—At the conclusion of the Herter lectures Dr. Albrecht Kossel was entertained at dinner at the Maryland Club by Dr. William H. Welch. About twenty members of the faculty of the Johns Hopkins school were present. Dr. and Mrs. Kossel will sail for Europe October 24.

Personal.—Dr. James H. Bay has been appointed by the postoffice department as examining physician to the civil service board of examiners for Havre de Grace.——Dr. Eugene Wright has succeeded Dr. Don P. Peters as superintendent

of the Church Home and Infirmary.——Dr. J. George Schmetzer is ill with typhoid fever at the Union Protestant Infirmary.——Dr. George J. Heuer has succeeded Dr. Charles M. Remsen, resigned, as resident surgeon at Johns Hopkins Hospital.——Dr. H. Ross Coppage has been appointed a member of the public bath commission.——Dr. B. Merrill Hopkinson, after twenty-one years service as soloist and choirmaster of Brown Memorial Church, has resigned. He was given a purse of gold by the congregation as a testimonial.

MASSACHUSETTS

Ether Day.—The sixty-fifth anniversary of Ether Day will be celebrated by appropriate exercises at the Massachusetts General Hospital, Boston, October 16. The address of the occasion will be delivered by Dr. Simon Flexner, New York City.

Personal.—Dr. George G. Bailey, Ipswich, has been appointed medical examiner of Essex County.——Dr. Ernest B. Emerson, superintendent of the North Reading State Sanitarium, has been appointed medical director of the state farm at Bridgewater, vice Dr. Alfred Elliott, retired.——Dr. David F. Atwater, Springfield, is said now to be the oldest alumnus of Yale College.

Council Meets.—At the stated meeting of the Council of the Massachusetts Medical Society, October 4, Drs. Charles F. Caney, Greenfield, and Justus G. Hanson, Northampton, were appointed delegates to the Vermont State Medical Society, and Drs. Lyman A. Jones, North Adams, and Richard S. Benner, Springfield, delegates to the Medical Society of the State of New York, and Dr. Percy E. Brown, Boston, was appointed a delegate to the Medical Society of Virginia. Dr. Horace D. Arnold, Boston, presented the report of the delegates to the American Medical Association and Dr. Harold C. Ernst, Boston, reported for the committee on state and national legislation the contemplated efforts to raise the standard of applicants for registration in medicine and hoped thereby that "Massachusetts may be lifted from its deplorable condition in this matter, in which it is so far behind, practically, almost all the states in the Union."

MINNESOTA

Personal.—Dr. Robert O. Earl, St. Paul, has returned from Europe.——Dr. John J. Eklund, Duluth, has resigned as a member of the State Board of Visitors.

Rush Alumni Meeting.—In connection with the annual meeting of the State Medical Association in St. Paul, the alumni of Rush Medical College, resident in Minnesota, held a meeting at which Dr. Bertram W. Sippy, Chicago, was the guest of honor. Dr. William H. Rowe, St. James, was elected president; Dr. T. C. Masters, Sauk Center, vice-president, and Dr. Bayley, Lake City, secretary.

State Medical Association Meeting.—The annual meeting of the Minnesota State Medical Association was held in St. Paul, October 4-6, and the following officers were elected: Dr. Haldor Sneve, St. Paul, president; Drs. Olaf T. Sherping, Fergus Falls, and William F. Wilson, Lake City, vice-presidents; Dr. Thomas S. McDavitt, St. Paul, secretary, reelected, and Dr. Richard J. Hill, Minneapolis, treasurer, reelected. It was decided to hold the next annual meeting at Duluth, Minn.

MISSOURI

Personal.—Dr. William S. Saunders, Clarence, is reported to be seriously ill.——Dr. John H. George, Leeds, has succeeded Dr. Addison M. Harrison, Lees Summit, as superintendent of the Jackson County Poor Farm.——Dr. John J. Farrell, Hannibal, has been elected secretary of the Marion County Board of Health.——Dr. and Mrs. George S. Drake, Jr., St. Louis, have returned from Europe.——Dr. Heine Marks, St. Louis, who has been seriously ill with septicemia, is reported to be improving.

St. Louis

New Milk Ordinance.—The Civic League has prepared an ordinance creating the position of chief milk inspector with a corps of assistant inspectors giving them power to inspect all dairies that furnish milk for consumption in St. Louis; providing for a system of licensing dairies by the board of health; and establishing a standard of ingredients. The proposed ordinance was of course vigorously opposed by the milk dealers, they claiming that it would give too much authority to the inspector and would compel a rise in the price of milk to 12 cents a quart. The bill in its present or a modified form will be introduced in the municipal assembly by the board of health.

NEW YORK

Personal.—Dr. Arthur J. Bedell, Albany, has returned after a trip from Japan, Siberia, Russia and England.——Dr. Roy L. Leak of the Ogdensburg State Hospital has been appointed second assistant physician at the Matteawan State Hospital and Dr. William J. Tiffany, who has been on temporary duty in that institution, has returned to the Binghamton State Hospital.

District Society Meeting.—At the annual meeting of the Eighth District Branch of the Medical Society of the State of New York, held in Dunkirk, September 26 and 27, the following officers were elected: president, Dr. Henry A. Eastman, Jamestown; vice-presidents, Dr. Arthur G. Bennett, Buffalo, and Dr. Carl G. Leo-Wolf, Niagara Falls; secretary, Dr. Carl S. Tompkins, Buffalo, and treasurer, Dr. Charles A. Wall, Buffalo.

State to Teach Hygiene.—The New York State Health Department has completed plans for giving a series of public health lectures in every important city and town in the state. Lectures on the following subjects will be included in the course: tuberculosis, typhoid fever, diphtheria, smallpox and vaccination; rabies, the value of vital statistics; carriers of disease; preventable diseases; the sanitation of a country home; sewage disposal; water filtration, and oral hygiene.

New York City

New Laboratory for Hospital.—A new research laboratory is to be added to the Roosevelt Hospital through the munificence of Mrs. E. H. Harriman. The laboratory will do special work in physiologic chemistry. Its erection will be under the charge of Dr. Lewis R. Morris.

New York University Debt Free.—On October 2 the last $20,000 was paid on a mortgage of $175,000 on the medical school of the New York University, thus leaving the property of the university debt free. The payment of this indebtedness was made possible by the bequest of John S. Kennedy.

Secret Division of Fees.—At the stated meeting of the New York Academy of Medicine, held October 6, it was unanimously carried that the secret division of fees was an evil; if any member of the Academy of Medicine was found guilty of this practice it should furnish sufficient grounds either for a demand for his resignation or to make him liable to expulsion.

Low Death Record.—The number of deaths reported in New York City during the nine months ended September 30 was 58,144, equivalent to a death-rate of 15.56 per 1,000, which compares favorably with the corresponding period of 1910, when the death-rate was 16.27. The average number of deaths for the first nine months of the preceding thirteen years was 18.77 per 1,000. The reduction in the death-rate of infants under 1 year of age was most marked during this period, as 11,733 deaths were reported, or 124.6 per 1,000 as compared with 12,922 deaths, or a rate of 142.3 per 1,000 during the corresponding period of last year. This is equivalent to a reduction of 17.7 per 1,000, or a saving of 1,667 lives of infants during the first 9 months of the year.

Health Day at the Budget Show.—October 5 was health day at the city budget show and much interest was shown in the exhibit of the department of health. In his address on this occasion the health commissioner stated that he was going to ask for $1,564,178 additional for his department next year. It is his intention to establish seventy-three milk depots in the city instead of the fifteen now operated by the department. He also intends to increase the corps of school nurses and to establish six school clinics, to provide additional dentists, and to extend the inspection of school children for contagious diseases and physical defects to all free schools, bringing under the supervision of the department nearly 900,000 children. The interest shown in the budget exhibit has made it seem advisable to install a permanent exhibit open at all times to the public in the new building of the health department at Center and Walker streets.

OHIO

State Health Authorities to Meet.—The Ohio State Board of Health announces that its thirty-first conference with representatives of local boards of health will be held October 19 and 20.

Refuses to Contribute.—The board of Stark County Commissioners, Canton, it is said, has refused to appropriate $7,976, its additional share, necessary for the completion of the tuberculosis hospital at Springfield Lake. Other counties in the compact have agreed to the increased cost, and the

five-county tuberculosis hospital board has entered suit to compel the commissioners of Stark County to make this appropriation.

Personal.—Dr. Howard H. Herman, Dayton, has returned from Europe.——Dr. Carl H. Lund, Marietta, formerly a member of the medical staff of the Queen Copper Company, Douglas, Ariz., sailed for Europe, September 28.——Dr. John W. Clark, physician to the state penitentiary, Columbus, will hereafter attend to the duties formerly performed by Dr. A. J. Shoemaker, day physician.——Dr. Robert D. Gibson, Youngstown, is reported to be seriously ill at Mercy Hospital, Canton, as the result of an automobile accident.——Dr. George P. Buffett has been appointed ward physician of Cleveland, vice Dr. Frank W. Hickin, resigned.

Cincinnati

Personal.—Dr. Ernst Gustav Zinke was elected secretary of the American Association of Obstetricians and Gynecologists, at its twenty-fourth annual meeting, September 28.——Dr. and Mrs. Derrick T. Vail and family have returned from Europe.——Dr. Clayton B. Conwell, superintendent of the Ohio State Sanatorium for the Cure and Prevention of Tuberculosis, Mount Vernon, has resigned.

OREGON

New Faculty Members.—Announcement is made by Dr. Simeon E. Josephi, president of the medical department of the University of Oregon, Portland, of the following additions and changes in the faculty of the department: Dr. Franklin C. McLean of Chicago has been made professor of materia medica and pharmacology; Dr. Richard Dillehunt, also of Chicago, is to be lecturer in anatomy. Dr. Oscar T. Roberg, at present professor of anatomy, has been appointed professor of pathology, succeeding Dr. Robert C. Yenney, Portland, who has been made professor of clinical medicine.

Personal.—Dr. Thomas W. Ross, Astoria, has gone to Europe.——Dr. Cortez H. Wheeler has been reappointed health officer of Portland, and Dr. Samuel M. Gellert, assistant.——Dr. Ferdinand H. Dammasch, assistant health officer of Portland, has gone to Europe.——Dr. Otis C. Hollister, Portland, was run down by an automobile recently and was seriously injured.——Dr. Theodore Fessler, Portland, has been elected great sachem of the Improved Order of Redmen for Oregon, vice Dr. Frank H. Vincil, Rosenburg, great chief of records, who has temporarily filled the position.——Dr. George S. Whiteside, Portland, secretary of the state medical association, was seriously injured in a polo game, September 18.——Dr. A. E. Rockey, Portland, who was operated on eight weeks ago for appendicitis, has recovered and resumed practice.——Dr. J. Chris O'Day, Portland, has returned after a brief vacation in the Cascades.

PENNSYLVANIA

Personal.—Dr. Samuel N. Traver, Steelton, sailed for the Mediterranean, September 30.——Drs. Luther B. Kline, Catawissa, and Milton H. Fussell, Philadelphia, were elected delegates to the American Medical Association by the Medical Society of the State of Pennsylvania at its recent meeting.

Relief for Flood Sufferers.—A letter has been received by THE JOURNAL, suggesting that a relief fund be opened for the benefit of the medical men who have suffered damage or destruction of their property by the recent flood at Austin. The secretary of the Medical Society of the State of Pennsylvania states that contributions for this purpose may be sent to Dr. Owen M. Shreve, Erie.

New Work for Assistant Secretary.—At the meeting of the House of Delegates of the Medical Society of the State of Pennsylvania, September 25, an amendment to the by-laws proposed by the committee on permanent location was adopted whereby the assistant secretary is henceforth to carry out all business details incident to the annual sessions of the society, under the advice and direction of the board of trustees.

Philadelphia

Election of Officers.—The new officers of the Medical Society of the Woman's Hospital for 1911-12 are: president, Dr. Florence E. Kraker; vice-president, Dr. Mary Buchanan; secretary, Dr. M. Louise Diez, and treasurer, Dr. Mary Thomas Miller.

Pediatric Joint Meeting in New York.—A joint meeting of the New England Pediatric Society, the Section on Pediatrics of the New York Academy of Medicine and the Philadelphia Pediatric Society, will be held in New York City on November 9. The entire day will be spent in visiting New York hospitals and a scientific meeting will follow at which three papers will be read, one by a member of each society.

Personal.—Dr. Andrew H. Woods, assistant neurologist to the Philadelphia Hospital, has been made vice-president of the Canton Christian College in China.——Dr. Marcus A. Franklin has returned from Europe.——Dr. Joseph Leidy, Jr., will sail for Europe on October 18.——At a meeting of the College of Physicians, October 5, the Alvarenga prize, valued at $180, was awarded to Dr. Francis D. Patterson for his thesis on "Parathyroid Glandules."

Tuberculosis Day Camp to Remain Open.—The results of the Tuberculosis Day Camp on the Delaware River front have been so gratifying that it will be kept open during October and very probably November also. The regime at the camp conforms strictly to that of a sanatorium and suitable cases, namely indigent tuberculosis patients, not requiring absolute rest in bed, may be referred by any physician and remain under his care, but must apply for a card of admission to the Tuberculosis Dispensary of the State Department of Health. The camp is a philanthropic enterprise, the funds for its support having been raised in response to an appeal sent out last spring by Dr. Joseph S. Neff, the honorary director, Mr. Edward B. Smith, treasurer, and Dr. Albert P. Francine, director.

GENERAL

Ohio Valley Physicians to Meet.—The thirteenth annual meeting of the Ohio Valley Medical Association will be held at Evansville, November 8 and 9, under the presidency of Dr. William D. Haines, Cincinnati.

Child-Savers to Meet.—The American Association for the Study and Prevention of Infant Mortality will hold a meeting at Hotel La Salle, Chicago, November 16 to 18, when the results of the recent European tour of investigation of Prof. Charles R. Henderson, of the University of Chicago, will be given.

Hookworm Conference.—The second annual conference on hookworm was held in Nashville, Tenn., September 15 and 16, and Little Rock was decided on as the place for the next conference in 1912. Dr. John A. Ferrell, Kenansville, N. C. was elected president, and Dr. William W. Dinsmore, Decatur Ala., secretary of the conference.

Railway Surgeons Meet.—At the seventeenth annual meeting of the Big Four Railway Surgeons, held in Indianapolis, October 3, the following officers were elected: president, Dr. John H. Miller, Pana, Ill.; vice-presidents, Drs. William J. Means, Columbus, O.; John C. Sexton, Rushville, Ind., and John C. Epperson, Kansas, Ill.; and secretary-treasurer, Dr. Leonard A. Ensminger, Indianapolis (reelected).

Personal.—Captain John S. Lambie, Jr., M.C., U. S. Army, who was operated on at Johns Hopkins Hospital, September 22, for appendicitis, is reported to be doing well.——Colonel William W. Gray, M.C., U. S. Army, medical supply officer at the Presidio, San Francisco, was thrown from his horse in Golden Gate Park, September 16, fracturing several ribs and sustaining internal injuries.——Dr. Mary Eddy, medical missionary in Turkey, who has established two sanatoriums for consumptives, one near Beirut, and the other on Mount Lebanon, is making a two months' visit and lecture tour of the United States, to endeavor to secure medical supplies and funds to increase the scope of her tuberculosis work in Turkey.

Mississippi Valley Medical Association.—The annual meeting of the Mississippi Valley Medical Association, to be held in Nashville, October 17 to 19, promises to be one of the most interesting from a scientific standpoint of any in the history of the organization. Dr. Joseph D. Bryant, New York City, is to deliver the address on surgery, and Dr. James C. Wilson, Philadelphia, the address on medicine; the presidential address by Dr. Robert H. Babcock, Chicago, will be on "Medical Tendencies." The surgeon general of the U. S. P. H. & M.-H. Service has detailed Assistant Surgeon R. M. Grimm to attend the conference and present a paper on pellagra, and Surgeon William Colby Rucker to describe the work done by the public health service in the stamping out of bubonic plague. There is also to be a symposium on visceroptosis, which will be considered from all standpoints. In this Drs. Cornelius W. Suckling and William Billington of Birmingham, England, will participate. The entertainment provided for the association includes an automobile excursion to the Hermitage, the home of General Jackson, with an address by Dr. John A. Witherspoon, Nashville, Tenn., on "Old Hickory."

Appeal for John Morgan Monument.—A committee consisting of Edgar Fahs Smith, Ph.D., Dr. S. Weir Mitchell, Philadelphia, Sir William Osler, and Drs. William Pepper, Clar-

ence Payne Franklin, and Swithin Chandler, Philadelphia, has been appointed to take up the project of erecting a fitting monument to John Morgan, founder of the first medical school in the United States, and director general of the hospitals and physician-in-chief of the American Army during the revolutionary war. He received his A.B. degree from the University of Pennsylvania in 1757, his M.D. from the University of Edinburgh; and later became L.R.C.P., Lond., and F.R.S. He was one of the founders of the College of Physicians of Philadelphia. In 1765 he persuaded the trustees of the College of Philadelphia to organize the first medical school in America, and in this institution he was a professor for three years. He died Oct. 15, 1789, and is buried in St. Peter's Church, Philadelphia, but no monument marks the place where his remains repose. The committee hopes that the medical profession in general in the United States, and all who, directly or indirectly, have owed anything to medical education, will heartily approve of this movement, to honor the name of John Morgan by an appropriate monument, marking his last resting place.

FOREIGN

Original of Sherlock Holmes Dies.—Dr. Joseph Bell, eminent surgeon of Edinburgh, said to have been the original of Sir Arthur Conan Doyle's famous character, Sherlock Holmes, died at his home in Midlothian, October 4, aged 74. Dr. Bell was formerly president of the Royal Medical Society of Edinburgh and of the Medico-Chirurgical Society, consulting surgeon to the Royal Infirmary, and Royal Hospital for Sick Children; demonstrator of anatomy in the university, and was for twenty-three years editor of the *Edinburgh Medical Journal*. He was an enthusiast in the study of mysterious crimes and gave to his student Conan Doyle his first insight into the wonderful possibilities of arriving at facts by the so-called deductive method.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Sept. 23, 1911.

The National Insurance Bill and the Question of Friendly Society Control

The national insurance bill is still in committee stage in the House of Commons. The passage of amendments of its medical part, rendering it more acceptable to the profession, has been described in previous letters to THE JOURNAL, but the struggle is by no means over. The British Medical Association is continuing to organize the profession to fight injurious proposals. The representative body of the association has determined to postpone decision as to the attitude the profession should be recommended to take as regards consenting to work under the bill, until the proceedings in the committee of the House of Commons have been completed, and the bill as amended can be considered as a whole. In the meantime, the collective effect of the amendments already passed is being carefully examined and a report on the whole subject will be issued to the profession. Since the adjournment of parliament, the position has become acutely critical with respect to two of the most important principles for which the profession has been contending, namely, the free choice of physicians by patient and the freedom from friendly society control, and it is considered urgent that the profession should be put on its guard. The passing, by an overwhelming majority, of the amendment by which control of the administration of medical benefit was placed solely in the hands of local health committees, and the passing of the chancellor of the exchequer's amendment providing for free choice of doctor by patient, were received by the public as notable victories for the profession. But the British Medical Association warns the profession not to overvalue such success as has been gained since strenuous efforts are necessary to make the position secure. At conferences of friendly societies held after the conclusion of the committee proceedings in the House of Commons, resolutions hostile to the professional position have been carried and the desire has been manifested by the societies to retain control of what they call "their own doctors." Certain societies are endeavoring to rally to their support the physicians who hold appointments from them and to separate them from the general mass of their professional brethren. Attempts are being made to induce them to sign declarations in favor of the present system of appointment of medical officers by clubs, as against giving each member the choice of his own doctor. The British Medical Association has issued a circular to the whole profession asking physicians to appreciate the true bearings of the matter before signing to support the association by every possible means in preventing the perpetuation and extension, in connection with the national insurance bill, of the worst abuses of contract practice.

Hygienic Progress in Ireland

The Women's National Health Association of Ireland has done remarkable work in educating the people in the elements of hygiene and has played a great part in the antituberculosis movement in that country. It has taught the people to keep their windows open and has organized exhibitions and lectures all over the country. So ingenious have been some of its methods that they have been copied in England. The success of this movement is largely due to the indefatigable efforts of the president and the countess of Aberdeen, the Vicereine of Ireland. To mark their appreciation of her work the recent Congress of the Royal Institute of Public Health, held in Dublin, appointed her president—a position never before held by a woman.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Sept. 22, 1911.

Assistance to Physicians' Families

The Oeuvre Parisienne de Secours immédiat et d'assistance à la famille médicale (THE JOURNAL, Feb. 12, 1910, p. 548) has been organized to give aid to all of the members of any physician's family in misfortune. The membership fee has been reduced to one franc, and all the members of physicians' families are invited to cooperate. Non-medical persons who wish to show recognition to the medical profession are also invited to take part in the work, but the direction of the association is to be exclusively in the hands of physicians.

A Meeting for the Study of Abnormal Childhood

At the time of the twelfth Congrès français de médecine, which will be held at Lyons, October 22 to 25, a special independent meeting under its auspices will be held under the presidency of Dr. Beauvisage, professor in the Faculté de médecine de Lyon and president of the Oeuvre de l'Enfance anormale, to study the subject of abnormal childhood. All persons interested in the subject—professors, physicians, psychologists, instructors—may take part. No fee is demanded, the expense of the meeting being borne by the Congrès de médecine. The papers read will be published in medical, psychological or pedagogical journals as may seem most appropriate. Visits will be arranged to the psychopedagogical laboratories of the Oeuvre de l'Enfance anormale and to the medico-pedagogical laboratories of Villerubanne and Meyzieu.

Death of a Centenarian Physician

Dr. J. C. Boulle, whose centennial was celebrated March 3, 1910, has just died at Saint-Valérien in his one hundred and second year.

The High Cost of Living and the Public Charities

The municipality of Paris is greatly concerned over the increase in the cost of living, due to the epidemic of foot-and-mouth disease and to the unusual drought of the past summer. M. Felix Roussel, president of the municipal council, has just sent a letter to the presidents of the syndicats of the various food-supply industries expressing the desire to cooperate with them in lessening the expenses of living during the coming winter. The effect of this increase in the cost of foodstuffs is shown already in the budget of the Public Charities by a supplementary expenditure of about $190,000 (995,000 francs) for food. M. Mesureur, director of the Public Charities, has announced that when the municipal council meets again, he will be obliged to ask for additional funds with which to balance his budget.

Has a Physician the Right to Inject an Unauthorized Serum?

Under this title I described the prosecution of Dr. Lorot of Paris (THE JOURNAL, May 6, 1911, p. 1340) who injected his patients with a serum of his own make called "toxyline" which had not been legally recognized. This doctor was released in the first instance on the plea that the injections were a part of the treatment. The court of appeals of Paris confirmed the decision of the lower court, but the *cour de cassation*, to which the case was carried on appeal, has declared that a physician has no right whatever to make professional use of an unauthorized serum.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Sept. 21, 1911.

Personal

Professor Friedrich of Marburg has accepted the position of director of the surgical clinic at Königsberg.

Professor Veit of Halle has received the honorary title of doctor from St. Andrew's University, Glasgow, Scotland, on the occasion of the quincentenary of that institution.

A Medical Director for the Prussian Medical Bureau

It is a circumstance of unusual significance that the person who has hitherto occupied the office of director of the medical bureau having resigned on account of advanced age, Dr. Kirchner has been appointed in his stead. In this way the long-standing custom of appointing a lawyer as chief of the medical bureau, as of most departments, has been departed from and the wish of the Prussian medical profession, often expressed, to see a physician at the head of the medical bureau is fulfilled. This appointment was facilitated, or rather only made possible by the fact, which I have previously reported, that the medical bureau has been transferred from the department of education to that of the interior. In the department of education there was no inclination, on account of long custom and for other reasons, to make such a change.

Surely the prestige of the medical profession of Prussia will be enhanced by this appointment and there can be no doubt that our interests will be attended to with greater intelligence and cordiality by a man who has come from our own ranks than by a lawyer. Privy Councillor Kirchner is the oldest of the members of the bureau and for this reason was the only one considered in the appointment. But he has rendered good service in public health matters, particularly in framing the contagious diseases law. Kirchner is a pupil of Robert Koch and stood in intimate personal relations with him.

International Congress on Infant Protection

In the second week of September, the third international congress for protection of infants was held here. As the empress had assumed the protectorate and the imperial officials took a great interest in its organization (the president of the imperial health office was at the head of the committee on organization), it is easily understood that the affair came off in grand style. There were quite 1,000 participants present, among them men and women from all countries. The presidency as in all the international congresses of a philanthropic nature that have recently occurred in Berlin was filled by a prince, in this case the hereditary prince of Hohenlohe-Langenberg, formerly undersecretary in the imperial colonial office. The congress was opened September 11 in the presence of the empress. The proceedings were carried on in several sections which were under the direction of prominent investigators.

INFANT PEDIATRICS IN THE MEDICAL CURRICULUM

In the first section the chairman, Professor Heubner, delivered an address on the physiology and pathology of infancy in university instruction. He showed as the result of a question blank sent out that this branch is insufficiently provided for in the medical curriculum in most countries. He concluded with an appeal to the representatives of the various nations to direct a memorial to their governments, like the petition presented by the German pediatrists, asking for better facilities for instruction in this line. In the discussion of this theme Professor Marfan of Paris called for obligatory instruction to medical students in the hygiene and diseases of infancy in order to reduce infant mortality. Every children's clinic should have a special department for infants, with an infant consultation department for healthy and sick infants, which gives opportunity to receive the infants with the mothers. All students ought to attend this department for at least two months and pass a special examination in the care of infants. For the head of a crèche or a station for the care of infants, only such physicians should be selected as have had special experience and are able to show a certificate for the same.

Privat-docent Dr. Berend of Copenhagen expressed the desire that either the physiology and pathology of infancy be taught in a special elective, or that in the compulsory pediatrics course these subjects, as well as the hygiene of infants, should receive special attention. As the physiology and pathology of metabolism have special applications to the modern treatment of infants, it would be very appropriate to teach these subjects as an immediate continuation of the courses in physiology and pathology. Professor Koplik of New York called attention to the activity of American physicians during the last twenty-five years in furthering infant hygiene. He expressed a wish for a separation of the study of infancy from that of later childhood, the play and the school age, and the establishment of separate chairs for the hygiene of the child and for the study of children's diseases. Professor Medin of Stockholm gave a historical review of instruction in pediatrics in Sweden, where already in 1845 a professorship for pediatrics was established, and in 1850 a special children's clinic was founded in Stockholm. The number of students taking the compulsory course in the pediatric clinic ought not to exceed twenty-five, in order to promote practical training as much as possible.

TRAINING IN THE CARE OF INFANTS

The education of the nursing force for institutions, families and communities brought out a greater discussion. Professor Feer of Zurich required for women who are willing to devote themselves to the profession of infant nursing, in addition to good physical health, a specially good education and intelligence, which must be in many respects greater than that required for other nurses, as the infant cannot express its sensations. The duration of instruction should be at least one year in a sanatorium or hospital for infants, and the subjects for instruction should be anatomy, physiology, nutrition, hygiene and social care, and they should be taught partly theoretically and partly practically at the bedside of the healthy and the sick infant by a physician and by the head nurse. It is desirable that a four to six weeks' course should be given in a lying-in hospital in order that the nurse may also be able to care for the mothers. Pupils younger than twenty years should not be received, as they are not capable of the efforts of the instruction period. After a successful period of instruction the pupil should receive the title of graduate trained infant nurse (*diplomierte Säuglingspflegerin.*)

The well-known pediatrician, Privy Councillor Taube (who has established model infant hygiene in Leipsic), reported on communal infant hygiene. He called attention to the importance of a municipal control of the construction and character of dwellings, as, especially in the smaller dwellings, the condition of infants is endangered by the overheating as a result of insufficient ventilation. Female officials experienced in the care of infants should be installed as inspectors of dwellings. Municipal lying-in homes for the reception of needy women and girls should be erected and breast-feeding should be encouraged by municipal arrangements (nursing premiums, stations for the care of infants and nursing rooms). A better training in the care of infants should be required of the midwives licensed by the municipality. Of especial importance is a law for providing a cheap milk that is unobjectionable on the ground of health. Illegitimate children need special oversight through the establishment of municipal general guardianship. The speaker described in detail the conditions in Leipsic, where a municipal pediatrician stood at the head of the entire public infant welfare system. Nathan Straus of New York, an official delegate from the United States, spoke of the progress which had been made in the care of infants in America, in connection with which he went extensively into the favorable effect of pasteurized milk, for the introduction of which he himself, as is well known, has spent millions.

MOTHERHOOD INSURANCE

Dr. Bruno, the president of the propaganda society for insurance of motherhood in Heidelberg, gave an address on this important subject. He held that the heavy expenses of motherhood insurance necessitated its support by the state more than any other branch of insurance. There can be no protection of infants without a sufficient care for the mother, as in Germany in a year 1,500,000 women were found to be without sufficient protection before, during and after birth. These efforts for the protection of motherhood should be directed toward an imperial legal regulation, similar to the legal conditions already provided, for the protection of lying-in women in the wage-earning classes and for an amplification for the same. As indispensable requirements for state-aided obligatory insurance, the following are important: compensation for wages, to the extent of a full day's wage, for ten weeks, four weeks before and six weeks after delivery; compensation for the cost of the midwife, physician, medicines and for necessary care at home or in the hospital, and nursing premiums or assistance in the nutrition of the infant. Inasmuch as this imperial regulation of the matter is not probable in the immediate future, the method of self-help and of

private insurance must be adopted. This can be made possible by propaganda societies for motherhood insurance, which collect the means for founding motherhood clubs of which the chief function is the encouragement of breast feeding. Private motherhood societies make it possible for all women without reference to trade, religion or social status, whose income is under $760 (3,000 marks) to secure proper assistance at the time of confinement by the payment of small sums, and thus to preserve the health of the mother and child. The propaganda society provides suitable care in the last four weeks of pregnancy, and in return for a small payment provides in case of need for the care of the house and for the delivery of the insured. The private motherhood insurance aims at purely economic and hygienic ends, and refrains from one-sided ethical, political or sectarian activity.

STATISTICS

Dr. Falkenburg in the section for statistics made an address on the morbidity, mortality and birth-rate in different countries, illustrated by numerous graphic representations. While the birth-rate has fallen very markedly in all European countries with the exception of Roumania, Bulgaria and Russia, the reduction in the general mortality is notably greater in all countries with the exception of Ireland and France, but the infant mortality remains relatively high. The German nation has taken an unfavorable position among the European states. So far as sufficient statistics on morbidity are available, it must be said that disturbances of digestion are the chief cause of the diseases and mortality of infants. In the discussion, Professor von Mayr of Munich asserted that the theory of the survival of the fittest (*Auslesetheorie*) with reference to infant mortality must be looked on as obsolete. The connection between the birth-rate and mortality is to be assumed, as indicated by the fact that the mortality rate increases with the birth-rate. This connection was also emphasized by Szana of Budapest. Even the very active efforts for hygiene have not been able to do away with this parallelism. Kuczynski of Schöneberg asserted that it was extremely difficult to demonstrate such a parallelism, as well as to refute it.

OTHER TOPICS DISCUSSED

I cannot enter into the consideration of the other addresses. On the third day of the congress a consideration of existing arrangements for the care and protection of infants occurred in the various groups. At the final session the general secretary, Professor Keller, laid before the congress the suggestions made in the various sections; thus the assistance of states and societies in instruction of wider circles of the population in the protection and care of infants was advocated; further, the representatives of various countries were requested to urge their governments to provide new institutions for instruction in the university. It was further advocated to collect uniform international statistics on the entire subject of infancy. The necessity of the development of international relations of guardianship and legal protection in the care of infants in general (more protection than previously for illegitimate children, etc.) was strongly emphasized. In connection with this, the establishment of an international information bureau for all legal questions in regard to the protection of children was proposed. The next congress will occur four years hence at The Hague in Holland. Eight years hence it will presumably meet at London.

Marriages

JAMES D. DODRILL, M.D., Webster Springs, W. Va., to Miss Mabel I. Harford of Richwood, W. Va., at Charleston, W. Va., September 26.

LEE J. ERNSTBERGER, M.D., Oklahoma City, Okla., to Miss Lasetta S. Smodell of Louisville, Ky., at Vincennes, Ind., August 9.

JOHN H. STEENBERGEN, M.D., Huntingdon, W. Va., to Miss Jessie Johnson Fitch at Fairmont, W. Va., September 20.

JAMES WILLIAM HUFFMAN, M.D., Poland, Ind., to Miss Stella Kinland of Bismarck, Mo., at St. Louis, September 30.

CLAUDE JACKSON MARTIN, M.D., Clarksburg, W. Va., to Miss Edith Claire Riall of Baltimore, September 13.

EDWIN W. PATTERSON, M.R.C., U. S. Army, to Miss Mary Laura Kriedler of Georgetown, D. C., September 6.

WILLIAM HENRY BEST, M.D., Brooklyn, N. Y., to Miss Mary Anderson Kinsley of Philadelphia, September 29.

EDWARD JONATHAN KLOPP, M.D., Philadelphia, to Miss Emma Rille of Johnstown, Pa., September 27.

JOHN ROSS BEITER, M.D., to Miss Euretta Pamelia Kingsbury, both of Norwalk, O., September 30.

EDWIN JANSS, M.D., Los Angeles, Cal., to Miss Florence Cluff of San Francisco, September 12.

HENRY JAMES REYNOLDS, M.D., Chicago, to Mrs. Caroline W. Reid of Ottawa, Ill., October 4.

JOHN ARTHUR TURNER, M.D., Waukegan, Ill., to Miss Hazel Irene Kline of Chicago, October 5.

Deaths

Henry Gibbons, Jr., M.D., for many years dean of Cooper Medical College, San Francisco; died at his home, September 27, from senile debility, aged 71. He was born in Wilmington, Del., the son of Dr. Henry Gibbons, and was graduated from the Medical Department of the University of the Pacific, San Francisco, in 1863; for two years thereafter he served as acting assistant surgeon, U. S. Army at the General Hospital, Washington; he returned to San Francisco in 1870, became dean and professor of materia medica in Cooper Medical College; and in 1882 was made professor of obstetrics, gynecology and diseases of children; from 1870 to 1873 he was health officer of San Francisco; a member of the board of health from 1880 to 1883, and of the board of education from 1889 to 1890; he was a member of the American Medical Association; a charter member and once president of the Medical Society of the state of California, and the San Francisco Medical Society. Dr. Gibbons was one of the most prominent and progressive men on the Pacific Coast, and a practitioner and administrative officer of marked ability.

Robert Edward Doran, M.D. Albany (N. Y.) Medical College, 1893; a member of the American Medical Association and American Medico-Psychological Association; assistant physician at the Craig Colony for Epileptics, Sonyea, N. Y. from 1901 to 1903; first assistant physician in the Willard State Hospital from 1895 to 1901, and later superintendent of that institution; appointed state medical inspector for the lunacy commission in May, 1910; and a year later appointed superintendent of the Long Island State Hospital; an alienist of great merit and an administrative officer of ability, efficiency and energy; died at his home in Brooklyn, September 23, from heart disease complicated by laryngitis, aged 40.

Arthur L. Osborn, M.D. Western Reserve University, Cleveland, 1873; a member of the Ohio State Medical Association and National Association of Railway Surgeons, and once president of the Huron County Medical Society; a veteran of the Civil War; for twenty years major-surgeon of the Sixteenth Infantry N. G. Ohio, and surgeon of the Sixth N. G. Ohio during the Spanish-American War; a member of the board of U. S. pension examining surgeons of Norwalk; local surgeon for the New York Central Lines and Wheeling and Lake Erie Railroad; died at his home in Norwalk, September 18, aged 64.

Zane Bland Taylor, M.D. Medico-Chirurgical College of Philadelphia, 1893; a member of the Medical Society of the State of Pennsylvania; formerly physician to the Huntingdon County Home, Shirleysburg; for many years a member, and at the time of his death president, of the school board of Orbisonia; formerly a member of the council and burgess; died at his home, September 18, aged 61.

Merton Oliver Edwards, M.D. Medical School of Brunswick, 1881; a member of the Maine Medical Association; from 1906 to 1908 a member of the state legislature and in 1910 state senator; postmaster of Monmouth for four years; for many years a member of the staff of St. Mary's General Hospital; died at his home in Lewiston, September 22, from nephritis, aged 59.

George R. Vernon, M.D. University of Pennsylvania, Philadelphia, 1875; for several years a lecturer at his alma mater; president of the Upper Darby (Pa.) Board of Health, and formerly president of the Clifton Heights Board of Health and a member of the school board; died at his home in Clifton Heights, September 16, from cerebral hemorrhage, aged 64.

Charles Edward Denhard, M.D. New York University, New York City, 1874; a member of the Medical Society of the State of New York and New York Academy of Medicine; a member of the staff of Bellevue, Charity and Park hospitals, and one of the founders of the German Poliklinik; died at his home in New York City, September 22, aged 71.

John Archibald Wilder, M.D. Albany (N. Y.) Medical College, 1895; of Denver; a member of the Colorado State Medical Society, American Climatological Association and National Association for the Study and Prevention of Tuberculosis; professor of pathology of the University of Denver, and pathologist to St. Luke's and St. Joseph's hospitals; for two years assistant at the Saranac Lake Sanatorium; died at the home of his mother at Hoosick Falls, N. Y., September 14, from pulmonary tuberculosis, from which he had suffered for fifteen years, aged 40.

Walter H. Peters, M.D. Medical College of Ohio, Cincinnati, 1886; a member of the American Medical Association, and for twenty years a specialist on diseases of the eye, ear, nose and throat, of Lafayette, Ind.; an expert analytical chemist and toxicologist; a member of the staff of St. Elizabeth's Hospital; died at his home in Lafayette, September 28, from cancer, aged 52.

George Titus Howland, M.D. Bellevue Hospital Medical College, 1886; formerly health officer of Washington, D. C., and a leader in the crusade for the improvement of sanitary conditions in dairies; for the last nine years a practitioner of Norwich, Conn.; died in a hospital in Boston, September 24, a day after an operation for appendicitis, aged 50.

Alva Leroy Paul, M.D. Long Island College Hospital, Brooklyn, 1875; of Ottawa, O.; a member of the Ohio State Medical Association; local surgeon for the Detroit, Toledo and Ironton Railroad, and a member of the local board of pension examining surgeons; died at a hospital in Cleveland, September 18, from heart disease, aged 63.

Samuel S. Kilvington, M.D. University of Buffalo, N. Y., 1883; a member of the Minnesota State Medical Association; formerly health commissioner of Minneapolis; a veteran of the Riel Rebellion; died at his home in Minnetoka Mills, Minn., September 25, from cerebral hemorrhage, aged 69.

James Alfred Pettit, M.D. University of Virginia, Charlottesville, 1896; of Roseland, Va.; a member of the governor's staff; was shot and instantly killed in front of a hotel in Lovingston, Va., September 25, aged 45. The cause of the shooting is said to have been an ancient grudge.

Joseph Westerfield Dodds, M.D. Miami Medical College, Cincinnati, 1888; a member of the Ohio State Medical Association, and for many years a district physician of Cincinnati; died at the home of his father-in-law in Hamilton, O., September 25, from nephritis, aged 51.

John J. Cannan, M.D. College of Physicians and Surgeons, Baltimore, 1892; a member of the Medical Society of the State of Pennsylvania, attending physician to the Bradford Hospital; died at his home in that city, September 23, from pneumonia, aged 43.

Uriah Davis Thomas, M.D. Botanico-Medical College of Ohio, Cincinnati, 1875; a charter member of the Minneapolis Writers' League and a poet of more than local reputation; died at his home in Minneapolis, September 16, from senile debility, aged 83.

Absalom Winfield Jones, M.D. University of Michigan, Ann Arbor, Mich., 1878; a member of the American Medical Association, and Columbus Academy of Medicine; died suddenly at his home in Westerville, O., September 21, from heart disease, aged 64.

Isaac M. Witmer, M.D. Jefferson Medical College, 1881; a member of the Lancaster County (Pa.) Medical Society, and coroner of the county for nearly thirteen years; died at his home in Lancaster, September 22, from cerebral hemorrhage, aged 60.

Lewis Eugene Beauharnais Sanborn, M.D. College of Physicians and Surgeons, New York City, 1867; a veteran of the Civil War; deputy health officer of New York City from 1879 to 1908; died at his home in Machiasburg, Me., September 24, aged 73.

Almon Ward Hill, M.D. Boston University School of Medicine, 1887; of Concord, N. H.; a member of the New Hampshire legislature in 1903 and 1905; died in the Homeopathic Hospital, Boston, September 17, after a surgical operation, aged 47.

John J. Harlan, M.D. University of Alabama, Mobile, 1872; probate judge of Tallapoosa County, Ala., from 1898 to 1904, and later a banker of Stamford, Tex.; died at the home of his son in Alexander City, Ala., August 26, aged 64.

James M. Davis, M.D. University of Louisville, Ky., 1871; secretary of the board of health of Greenville, Ind., and a member of the Floyd County Medical Association; died at his home, June 14, from cerebral hemorrhage, aged 78.

Alfred E. Sherwood, M.D. University of Pennsylvania, Pa., 1873; of Union City, Pa.; local surgeon to the Pennsylvania System; and member of the board of health; consulting physician to the Corry Hospital; died at his home, September 24, aged 62.

Napoleon B. Nevitt, M.D. University of Maryland, Baltimore, 1857; a member of the Medical Society of Virginia; surgeon in the Confederate service during the Civil War; died at his home in Accotink, September 25, aged 81.

David H. Davis, M.D. University of Vermont, Burlington, 1891; a member of the Medical Society of the State of New York; health officer of East Worcester; died at the home of his daughter in Schenevus, September 23, aged 54.

Luther M. Zimmerman, M.D. University of Maryland, Baltimore, 1864; surgeon in the Federal service during the Civil War; for several years postmaster of Myersville, Md.; died at his home in Hagerstown, September 13, aged 71.

Frederick G. Trowbridge, M.D. University of Buffalo, N. Y., 1883; a member of the Jefferson County (N. Y.) Medical Society; died at his home in Watertown, September 20, from cerebral hemorrhage, aged 53.

William T. Eikner, M.D. Milwaukee Medical College, 1901; proprietor of a hospital and sanitarium in Mason City, Nev.; was shot and killed in an altercation in a hotel in Mason City, September 19.

J. B. Humphrey (license, West Virginia, 1881); for many years a practitioner of Harrison County; died at the home of his daughter in Wilsonburg, September 7, from senile debility, aged 80.

Ada Benton Morgan, M.D. Hahnemann Medical College of Chicago, 1894; died at her home in Ridge, a suburb of Chicago, September 23, three days after an operation for appendicitis, aged 52.

William Acrill Fort (license, South Carolina, years of practice), a Confederate veteran and a practitioner since 1870; died at his home in Gaffney, September 21, from heart disease, aged 69.

Joseph G. Hodgkinson, M.D. St. Paul (Minn.) Medical College, 1886; of South St. Paul; died at Luther Hospital, St. Paul, September 16, from arteriosclerosis, aged 66.

Nelson W. Shugert, M.D. College of Physicians and Surgeons, Baltimore, 1885; died at his home in Tidioute, Pa., September 12, from heart disease, aged 51.

Nettie G. Gray, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1896; died at her home in San Antonio, Tex., September 15, aged 45.

G. G. Hubbard, M.D. State University of Iowa, Iowa City, 1865; died at his home in Munfordville, Ky., September 23, from carcinoma of the stomach, aged 77.

Harvey L. Hensley, M.D. Physio-Medical College of Indiana, Indianapolis, 1907; died at his home in Oakwood, Ill., September 19, from typhoid fever, aged 37.

Sophus A. E. Johnson, M.D. Chicago Homeopathic Medical College, 1893; died at his home in St. Louis, September 17, from heart disease, aged 54.

G. W. Rofelty, M.D. Medical College of Ohio, Cincinnati, 1876; died at his home in Los Angeles, Cal., Dec. 21, 1910, from valvular heart disease.

Alexander M. Smoot, M.D. University of Tennessee, Nashville, 1889; died at his home in Knoxville, Tenn., August 30, from nephritis, aged 59.

Louis W. Heydrich, M.D. Western Reserve University, Cleveland, 1885; of Toledo; died in Erlangen, Germany, September 15, aged 51.

Austin Shuey, M.D. Eclectic Medical Institute, Cincinnati, 1890; died at his home in Prospect, O., June 30, from acute gastritis, aged 51.

F. A. Brickley, M.D. St. Louis College of Physicians and Surgeons, 1886; died at his home in De Soto, Mo., September 14, aged 80.

John F. James, M.D. Lincoln (Neb.) Medical College, of York, Neb.; died at a hospital in Lincoln, September 20, aged 40.

Edward D. Crispell, M.D. Eclectic Medical Institute, Cincinnati, 1866; died at his home in Leadville, Colo., September 12.

Charles C. Cage, M.D. Tulane University of Louisiana, New Orleans, 1861; died at his home in Monroe, La., aged 86.

Minot G. Jenison, M.D. Howard University, Washington, D. C., 1882; died recently at his home in Hollywood, Cal.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

THE PHYSIOLOGIC STANDARDIZATION OF ERGOT

Reference was made editorially in THE JOURNAL October 7 to a study of the question of the physiologic standardization of ergot by Edmunds and Hale, in which they review the various methods employed in the standardization of the drug and give the results of their own work with proprietary and pharmacopeial preparations of various manufacturers.

Their report is a highly interesting document and it is presented here in order that physicians may know how much reliance is to be placed in the preparations of manufacturers and what serious discrepancies exist between the claims made for permanency, strength, etc., of their special products and the facts as brought out by experiment. A summary of their conclusions as to the method of standardization is also given.

"From the standpoint of both practicing physician and patient an interesting part of this research relates to the activity of various ergot preparations as they are obtained on the open market. Similar work has been reported on by various writers from time to time, but even their results show some interesting discrepancies which seem to be dependent partially at least on the special method of assay employed. The examination of these specimens by us was not the prime object of the work, but only an incidental part, as it was mainly concerned with an examination of the different methods of assay in general use.

"Dixon, using the blood-pressure method, reported that among six samples of ergot he found two moderately active, two very feeble, and two worthless. Edmunds and Roth, by means of the cat's uterus, found that in a series of fluid extracts six were of nearly the same activity, one about half strength and one apparently inactive. Kehrer reports on about twenty-five ergot preparations which he assayed in the course of his investigations on the isolated uterus. Goodall, in his work already referred to, reports on the examination of a large number of ergot preparations. Among these he found that almost 60 per cent. showed themselves to be very poor when judged by the blood-pressure standard, but that only 34 per cent. failed to cause satisfactory contractions of the uterus. Wood and Hofer seem to have had the most discouraging experiences with fluid extracts, as they found among eleven preparations only two which came up to their standard of activity as determined by the effect on the blood-pressure.

"Our own results obtained in this research showed that the six fluid extracts which were obtained in the open market possessed considerable variation in activity, some being four times as strong as others, as is seen in the following table. Only one of the entire number approached in strength the fluid extracts made from the Spanish and Russian ergot.

"Relative activity of preparations of ergot examined. Results of July and December assays.

Spanish ergot	5*
Cornutol (H. K. Mulford Co.)	5
Russian ergot	6
Nelson, Baker & Co., fluid extract	6
Ergone (Parke, Davis & Co.) Sample 2	8
Wyeth purified ergot	8
Parke, Davis & Co., sample 2, fluid extract	9
Sharpe & Dohme, fluid extract	10
Ray Chemical Co., fluid extract	11
Ergotole (Sharpe & Dohme)	15
Parke, Davis & Co., sample 1, fluid extract	20
H. K. Mulford, fluid extract	20
Ergone (Parke, Davis & Co.), sample 1	?

* The numbers represent the amounts of the various ergot preparations that were required to produce a given degree of cyanosis in a cock's comb. For example: While five parts of Spanish ergot produced the required degree of cyanosis, it took ten parts of Sharpe & Dohme's fluid extract and twenty parts of Parke, Davis & Co.'s fluid extract to produce the same effect.—ED.

"As it is so generally known that the fluid extracts of ergot deteriorate quite rapidly, the fact that some preparations on the market which are made according to the pharmacopeia may be found very weak need not be considered a reflection on the manufacturer, as it may be merely the result of aging or other causes. It would seem very desirable, however, on account of this deterioration with age that bottles of ergot should be stamped with the date of the manufacture.

"With preparations of ergot other than those made according to pharmacopeial directions, the condition is quite different. These are prepared according to some private formula and are represented as being superior to the official preparations, either on account of greater strength, permanence, or some other suggested superiority. With these it is therefore of importance to see whether they possess any advantage over the cheaper official preparations and whether they actually conform to the standard claimed.

PREPARATIONS EXAMINED

"Cornutol appears at the head of these non-pharmacopeial preparations, and our sample seemed to be equal in activity to the Spanish ergot fluid extract. This preparation is made by H. K. Mulford Co., Philadelphia, from 'selected Spanish ergot and contains what is active separated from inert matter,' and is said to be assayed so as to contain 0.15 gram cornutin in 100 c.c. The specimen we examined was a thick greenish-brown fluid with a very unpleasant odor which suggested putrefaction. The most interesting point in connection with our sample of cornutol was that while it was found to be equally active with a good fluid extract, it should have been much more potent as it is claimed to be two and a half times as strong, each minim according to the label being equal to 2½ grains of ergot. We must conclude, therefore, that it, like the official preparations, had undergone deterioration.

"The 'ergot purified' made by John Wyeth & Bro., Philadelphia, made up with 25 per cent. alcohol, was a clear Burgundy red, and possessed the characteristic ergot odor. It required a dose about 50 per cent. larger than a good fluid extract in order to produce equal effects, and yet according to the makers it is a 'concentrated purified solution of active constituents of ergot, physiologically tested and standardized.' The method of assaying is not stated, but if we can judge by the copy of tracing enclosed, the preparation is tested by the blood-pressure method. Here again, as with cornutol, the only explanation we have to offer as to the difference in strength between that indicated on the label and what we found on examination is that it must have deteriorated very considerably.

"Still more interesting is 'ergotole,' made by Sharpe & Dohme, Baltimore. One specimen was found to be about one-third as strong as our Spanish fluid extract, while according to the makers it should be two and one-half times stronger, as each cubic centimeter is said to be equal to 2.5 grams select Spanish ergot. Our first thought would be that this remarkable discrepancy could be explained as in the other cases by the effect of age on the preparation, but this is evidently a mistake, as the firm's literature positively states that ergotole is a 'permanent solution,' that 'it does not change with age,' and is 'therefore always reliable.' Confronted by these statements, we are entirely at a loss for an explanation and must leave the subject with the mere statement of facts. Further, this preparation is assayed by the cornutine of Keller which the makers have found to be a 'trustworthy guide as to the therapeutic strength of the drug.' The evidence in regard to this relation we discussed at another point. A statement which occurs in the literature of the firm is that ergotole contains all the active principles of ergot in an 'unchanged condition' and 'in their natural combination.' The question might be raised as to whether this is not rather a strong statement and one which would be hard to prove.

"'Ergone,' Parke, Davis & Co., appears in both our series of assays, as the results obtained with it in July were so unfavorable that we decided to examine it again in December. According to the manufacturers, it is of the same strength as the official fluid extract, is non-alcoholic, sterile, active, permanent, and physiologically tested and standardized. The December samples we examined compared very favorably with the fluid extract made by the same firm whether the comparison was made on the cock's comb or the uterus. It apparently was slightly stronger, but not over about 10 per cent. However, both were much weaker than the Spanish fluid extract, being not much more than half as active. If the fluid extract had deteriorated (as might be expected), it would look as if ergone must have deteriorated also, as they are both standardized. But how can ergone deteriorate, being a per-

manent solution? Either they were both weak to start on, or they have deteriorated. The latter view probably is correct if we may judge by the findings in the samples used in the July series of assays. This specimen when tested on the cock's comb produced no cyanosis whatever, even when it was given in 4 c.c. and 6 c.c. doses. An extract from our records on one cock will show very plainly its lack of activity.

"COCK: Weight, 1,285 grams. Aug. 26, 1910. Injected 1 c.c. Spanish fluid extract. Distinct cyanosis. Same intensity as 3 c.c. ergotole injected to-day. Aug. 29, 1910. Injected 6 c.c. ergone. No action. Aug. 31, 1910. Injected 1.5 c.c. Spanish fluid extract. Distinct cyanosis.

"This protocol shows the cock was reacting well to other preparations, so that the failure to react must have been due to the ergone. This same specimen of ergone when administered in 1 c.c. doses to a cat called forth uterine contractions which were not as strong as were being produced by 0.1 c.c. doses of Spanish fluid extract. Clearly then the ergone was nearly inactive and must have deteriorated greatly.

"An interesting point in connection with the assay of ergone is the effect it produced on the blood-pressure. By reference to the tables [for which the *Bulletin* must be consulted.—Ed.] it will be seen that in both series it is very weak when measured by this standard. This is especially noticeable in the sample used in December, which was quite active when tested on the cock's comb and uterus, yet it raised the blood-pressure only 9 per cent., in comparison with the 38 per cent. increase produced by Parke, Davis & Co.'s fluid extract. This lack of activity on the blood-pressure is probably explained by a relatively small quantity of putrefactive amines, as ergone is said to be made under aseptic conditions.

"Chemical methods for the assay of ergot show little relation to biologic methods, and the latter should be used as a means of insuring those who require this drug a remedy both potent and of uniform strength.

"For this purpose, the method using the cock's comb is recommended on practical grounds rather than that using the uterus.

"Ergot preparations should be marked with the date of manufacture.

"The fluid extracts of ergot examined varied in strength greatly, some being only about one-fourth as strong as a preparation freshly made from Spanish ergot. Non-pharmacopeial preparations showed even greater discrepancies between the strengths claimed and those actually found.

"Until more reliable methods of manufacture are found makers of ergot preparations would be wise to exclude the phrase, 'ergot in permanent solution,' from their advertising literature. They may thus avoid misbranding."

QUININ TANNATE

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council and its publication authorized. In accordance with the recommendation, the description of quinin tannate, appearing in New and Nonofficial Remedies department of this issue, requires a quinin content of not less than 29 per cent. and lists, as brands which comply with this standard, the products sold by the Mallinckrodt Chemical Works, the New York Quinin and Chemical Works and the Powers-Weightman-Rosengarten Company.

W. A. PUCKNER, Secretary.

Quinin tannate, being almost insoluble in water, is practically tasteless and therefore adapted for administration to children in the form of mixtures (suspensions). Although the absorption of this quinin salt is claimed to be somewhat uncertain and its tannin content is an objection, the Council decided to describe it in New and Nonofficial Remedies because of its general availability and its rather general recognition. But in view of the common unreliability of little used substances, the actual description of quinin tannate in New and Nonofficial Remedies was postponed until the market supply could be examined and standards for the preparation formulated.

An exhaustive and critical search of the literature, as well as a chemical investigation of this substance, has been made in the Association's chemical laboratory. The results of this investigation were reported by W. A. Puckner and L. E. Warren in a paper read before the Scientific Section of the American Pharmaceutical Association, and to be published in the Annual Reports of the Chemical Laboratory. In brief the findings are:

Quinin tannate is official in most foreign pharmacopeias, but not in that of the United States. In some of them methods for preparation are given and the official product in all cases is required to contain not less than 30 per cent. of anhydrous quinin alkaloid. The methods prescribed by these pharmacopeias, however, were found in the Association's laboratory to yield products which did not contain the stated amount of alkaloid. As a result of considerable experimentation and consultation with the manufacturers of quinin tannate in this country, a simple method of making the substance was worked out, which will enable anyone at all familiar with pharmaceutical operations to make a preparation of good quality.

Four commercial brands of quinin tannate were examined with the results shown in the accompanying table. From these findings it appears that the quinin tannate of the New York Quinin and Chemical Works is of good quality and contains more than 30 per cent. quinin. The products of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents) and the Powers-Weightman-Rosengarten Co. are satisfactory except that their quinin content is somewhat low. The Merck brand contains about 9 per cent. of free quinin, is bitter and is, therefore, not fit for use. The poor quality of this brand is a further illustration of the need of controlling the quality of medicines, particularly when these are not of much commercial importance.

Inasmuch as the authors have shown that quinin tannate with more than 30 per cent. quinin can readily be made, a preparation with less alkaloid should not be permitted. However, as two brands approach this standard and, as the interested firms will not find it difficult to meet the proposed standard, the referee recommends a temporary standard of not less than 29 per cent. quinin, which standard is to be increased so as to require a quinin content of not less than 30 per cent. by Jan. 1, 1913. It is recommended that the description of quinin tannate submitted be accepted for inclusion with New and Nonofficial Remedies and that the product of the New York Quinin and Chemical Works, of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents), and of the Powers-Weightman-Rosengarten Co. be listed as brands which meet the requirements of this description. It is further recommended that, beginning with 1913, a quinin content of from 30 per cent. to 35 per cent. be required.

In order that physicians may know the facts in the case, it is recommended that publication of this report be authorized.

Number or Brand.	Water (Loss at 100°).	Anhydrous Quinin.	Ether-Soluble Matter.†	Sulphate.	Chlorid	Taste of Filtrate.
P. W. R.....	7.88	29.30	0.10	Distinct turbidity.....	Noticeable opalescence.....	Noticeably bitter.
Brunswick (M. C. W.).	6.50	29.51	0.19	Absent	Very marked opalescence...	Noticeably bitter.
N. Y. Q.....	8.05	33.36	0.36	Distinct turbidity.....	Noticeable opalescence.....	Noticeably bitter.
Merck	9.06	33.97	9.02	Very faint opalescence.....	Very faint opalescence.....	Very bitter.

† In general, the values given in this column should indicate the presence of uncombined alkaloid, but quinin tannate is slightly soluble in anhydrous ether; hence the test must be carried out under arbitrary conditions and the residue obtained tested for uncombined alkaloid. The three specimens in which the ether-soluble matter amounted to less than 0.4 per cent. contained no uncombined alkaloid.

EDITORIAL COMMENT

In order that pharmacists might be in a position to dispense a good quality of quinin tannate, the examination of the Association's chemical laboratory above referred to was presented to the American Pharmaceutical Association at its recent annual meeting in Boston. While the very simple directions for its preparation which were worked out should make it possible for every pharmacist to prepare his supply of this drug, it was feared that the pharmacist would continue to place his faith in the drug as found on the market and hence the quality of the several available brands was also given in the report. This would have enabled the pharmacist to give preference to those brands which were shown by examination to be of a satisfactory grade. Unfortunately for the pharmacist, as well as for the physician and his patients, those interests which are not in sympathy with the Association's policy of giving publicity to the makers of worthless or adulterated drugs, appear to have been in control when the paper was read and were able to carry a motion that the names of manufacturers be omitted from the paper when it should appear in the American Pharmaceutical Association's publication. In view of this, physicians who use quinin tannate should, in their prescriptions, take the precaution to specify a brand of the drug which was shown to be reliable or, perhaps better still, indicate that they want a brand which corresponds with the standards established by the Council, by appending the letters N. N. R., thus "Quininæ tannas, N. N. R."

Correspondence

Treatment of Rhus Poisoning

To the Editor:—I read with interest the communication of Dr. Robert T. Morris of New York on the treatment of rhus poisoning (THE JOURNAL, Sept. 30, 1911, p. 1152). There is no statement as to the date of discovery by Dr. Berryhill, U. S. N., of the soap-suds treatment, but the method is familiar to many clinicians in the Boston hospitals, and I myself have used and recommended the same remedy since 1902. I have never before seen any reference to it in the literature, but I admit that I never looked for it.

C. S. OAKMAN, Detroit.

To the Editor:—In his 1911 edition Pusey quotes, from THE JOURNAL, March 17, 1906, Balch's treatment of ivy poisoning, which is substantially the same as that ascribed to Dr. Berryhill by Dr. Morris in THE JOURNAL, September 30. I have tried the treatment with soap-suds scrubbing and alcohol and find it very effective, giving immediate relief.

J. L. BUTTNER, New Haven, Conn.

To the Editor:—In the *Journal of Biological Chemistry*, 1907, ii, No. 6, S. F. Acree and W. A. Syme relate the results of an exhaustive study of rhus poisoning in a paper entitled "The Composition of Toxicodendrol." They found that the poisonous principle was neutralized by permanganate of potash, used preferably in warm 2 to 4 per cent. watery solution.

For nearly twenty years I was regularly a sufferer from ivy poisoning; and on two occasions the condition was alarming. None of the usual remedies had any effect, except to modify the extreme distress. Permanganate this year and last gave almost instant relief, checking the disorder even when started on the face.

From experience and observation I have formulated the following treatment: No scratching. No ointments in the acute stage. No bandages, for these tend to spread the poison to the surrounding skin. If any protector is needed, let it be a loosely applied dressing of cotton and gauze, kept moist at all times with a mild alkaline solution, and changed at frequent intervals. Frequent and copious washings with lukewarm water and an unirritating soap. Occasionally, after the parts are washed, a 2 per cent. watery solution of permanganate of potash. If treatment has been begun late, and a condition of eczema exists after the activity of the poison has ceased, then soothing ointment may be permitted.

Permanganate of potash stains the skin a deep brown color, but this is a small price to pay for the relief it affords. A 5 per cent. solution of oxalic acid will remove the discoloration, but caution must be exercised in applying it. Alcohol is a solvent of the poisonous principle, but its use tends to spread the trouble. In handling the inflamed surface, it is best to use rubber gloves.

ADDISON W. BAIRD, New York.

To the Editor:—Please revise Dr. Hemmeter's formula for bismuth subgallate ointment given in his communication on the treatment of rhus poisoning. To a careful reader the transposition of quantities is evident, but many will use the formula as printed.

WILLIAM CRAWFORD JOHNSON, Frederick, Md.

COMMENT.—The subject of ivy poisoning is commented on editorially in this issue. In regard to Dr. Hemmeter's formula, Dr. Johnson is correct. We therefore repeat the formula with corrected quantities:

Bismuth subgallate	3i
Solution epinephrin (adrenalin chlorid) 1-1000	100 m
Lanolin	3v
White petrolatum q. s.	ad 3i

The Introduction of the Ophthalmoscope into the United States

To the Editor:—I wish to correct the statement with reference to the introduction of the ophthalmoscope into this country, made by Dr. A. D. Williams, of Bedford, Ind., in THE JOURNAL, July 29, 1911, p. 408. The credit is due neither to Dr. E. Williams, of Cincinnati, in 1855, nor to Dr. Herman Klapp, of New York, in 1868, but to Dr. Christopher Johnston, who on his return from a prolonged stay in Europe, early in 1854, brought the instrument back with him to this city. In a report made by him to the Medical and Chirurgical Faculty of Maryland, on June 7, 1854 (Transactions for 1854), he exhibited and described it. He had made himself thoroughly familiar with it by studies in Berlin, with von Graefe, and in Paris with Desmarres. Dr. Johnston's report is accompanied by two ophthalmoscopic drawings and it is "highly probable that the very first colored drawings of the background of the eye, published in America, were those which he prepared" (Theobald, Samuel: "The Evolution of the Ophthalmoscope and What It Has Done for Medicine," *New York Med. Jour.*, June 22, 1901). The only article on the ophthalmoscope published in this country prior to Dr. Johnston's report, so far as I am aware, is a translation, somewhat condensed, of Helmholtz's original tract. by Dr. W. R. Sanders, which appeared in the *American Journal of the Medical Science*, July, 1853, and was copied from the English *Monthly Journal of Medical Science*, July, 1852.

Dr. Johnston was a highly accomplished scientist as well as physician, and held in the University of Maryland successively the chair of anatomy (1864-66) and that of surgery (1869-81).

EUGENE F. CORDELL, M.D., Baltimore,
Professor of History of Medicine, University of Maryland.

Anesthetic Records

To the Editor:—For a number of years I have been collecting anesthetic records with the object in view of being able some day to present to the profession what might possibly be accepted as a standard chart—at least as to contents. With this in view I have written to many hospitals for copies of the charts they use, and have been gratified at the number of responses which were received. In order now to reach my colleagues who have their own private blanks, I must have recourse to this general request. I would ask those who are interested in this subject kindly to send me four copies, one for the Long Island Society of Anesthetists, one each for the King's County and the New York Medical libraries, and one for my own collection. I shall be glad to correspond with any one on this matter and to send our chart (the Long Island College Hospital) in return.

A. F. ERDMANN, Brooklyn.

458 Ninth Street.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TRYPTOPHAN TEST FOR CANCER

To the Editor:—Please give the technic of the test for cancer of the stomach with bromin, referred to in THE JOURNAL, Sept. 9, 1911, p. 928. W. W. SCOTT, M.D., Walhalla, N. D.

ANSWER.—The tryptophan test referred to depends on the power of ferments present in the cancer juices to break down proteins into amino-acids. Tryptophan is an amino-acid which is split out of the protein molecule by trypsin and by the autolytic enzymes of tissue cells, whether they be normal or cancer cells; but the pepsin of normal gastric juice does not disintegrate proteins as far as the amino-acids, and hence tryptophan is not found in normal stomach contents. When disintegrating cancer-tissue is present in the stomach, autolytic enzymes may be present in the gastric contents and may set free tryptophan from the digesting protein. If it has not been already formed, it is necessary to add a compound of tryptophan, glycyl-tryptophan, to the filtered stomach contents and incubate for twenty-four hours before testing. During incubation the glycyl-tryptophan is split into glycin (amino-acetic acid) and tryptophan.

The test for tryptophan is made by adding bromin water to the suspected liquid. Bromin water is obtained by shaking distilled water with bromin or letting it stand in a closed bottle, in the bottom of which a small amount of bromin is placed. The bromin water should be added cautiously, drop by drop, as an excess of bromin may easily obscure the characteristic color. The addition of a few drops of bromin water to 3 or 4 c.c. of the incubated stomach contents, to which a few drops of 3 per cent. acetic acid have been added, will give a reddish violet color if tryptophan is present.

The tryptophan reaction is not characteristic of cancer unless the possible presence of the proteolytic ferment of the pancreas or intestine is excluded.

PLOMBIERES METHOD OF COLONIC IRRIGATION

To the Editor:—Please give a short description of the Plombières method of colonic irrigation or tell me where I can find an article in English giving the method. H. L. WILDER, Glen Rose, Texas.

ANSWER.—Dr. Bottentuit, consulting physician at Plombières (*Brit. Med. Jour.*, June 27, 1903), gives, in addition to dietetic and medicinal treatment, directions for using the waters at Plombières. He recommends baths highly, especially when given with the water. In addition he recommends enemas of this water, which should be given at a temperature of from 100.4 to 113 F. (38 to 45 C.) and from a vessel at a height of from 16 to 20 inches (40 to 50 cm.) above the patient's bed. He usually injects a pint at a time. Care must be used to inject it slowly and cause the patient to change position so as to bring it in contact with all parts of the colon. The enemas are best given after the bowels have moved, and after the first pint is rejected the patient should rest a short time and then receive a second enema. In an article on membranous colitis, Michael G. Foster (*Edinburgh Med. Jour.*, 1901) states that the hot alkaline baths at Plombières are often beneficial, their value depending more on their method of employment than on the chemical composition of the water.

HAIR DYES

To the Editor:—In answer to a correspondent (THE JOURNAL, Aug. 26, 1911, p. 757), you speak of eruptions due to hair dye. In one week this year I had three cases, one caused by eau-sublime, and two by "Empire Hair Regenerator." One of the patients asked me for a harmless hair dye. Can you suggest one?

E. HOCHHEIMER, New York.

ANSWER.—All hair dyes are harmful. Probably the following, recommended by Kaposi, are as safe as any:

To obtain a black color,

	Gm. or c.c.		
R			
Argent. nitrat	1		gr. xv
Ammon. carb	1	or	gr. xxij
Unguent. adipis	30		ʒj
M			
Or,			
R			
Argent. nitrat	4		ʒj
Plumb. acetat	1	or	gr. xv
Aq. Cologn	1		gtt. xv
Aq. ros	ad 90		ad fʒiij
M			

ACID FRUITS MAY BE TAKEN AFTER CALOMEL

To the Editor:—Is there any scientific basis for the popular prejudice against eating acid fruits or other acids after a dose of calomel? If so, please explain.

LINDSAY PETERS, M.D., San Juan, P. R.

ANSWER.—1. Calomel is not acted on to an appreciable extent by non-oxidizing acids, such as hydrochloric or the fruit acids, except that it is affected by very concentrated boiling hydrochloric acid. It is converted by nitric acid and by other oxidizing acids from a mercurous into a mercuric compound which may produce irritating or poisonous effects. The tendency to this change is in proportion to the concentration of the acid. Probably little change would be effected by therapeutic doses of diluted nitric acid, when taken into the stomach. Calomel is changed in the presence of soluble iodids or bromids, and, to some extent, when in contact with concentrated solutions of chlorids, into metallic mercury and a mercuric compound.

The fear of an action of acids or acid fruits on calomel in the stomach is, therefore, quite unfounded and the same is probably true of the administration of chlorids in ordinary concentration following calomel. The simultaneous use of nitric acid, iodids or bromids should be avoided.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Oct. 7, 1911.

Gunckel, George I., reported for duty at Columbus Barracks, Ohio.

Bewen, A. S., lieut., left San Antonio, Texas, en route to Fort Snelling, Minn.

Wadhams, S. H., major, returned to Fort Slocum, N. Y., from leave of absence.

Casper, Joseph, lieut., returned to Fort Du Pont, Del., from sick leave and departure Sept. 28, 1911, en route to Manila, P. I.

Reynolds, C. B., major, returned to Washington Barracks, D. C., from leave.

King, Charles T., lieut., assigned to duty as surgeon of the transport *Sherman*, with station at San Francisco.

Darby, Taylor E., lieut., left Fort Sam Houston, Texas, en route to Manila, P. I.

French, S. W., lieut., M.R.C., reports for temporary duty at Fort Hancock, N. J.

Bernheim, J. R., dental surgeon, left temporary duty at Columbus Barracks en route to Fort Sheridan, Ill.

McAlister, John A., dental surgeon, on completion of temporary duty at Camp E. V. Sumner, Cloudcroft, N. M., ordered to Fort Bliss, Texas, for temporary duty.

Ford, Clyde S., major, returned to Fort W. H. Harrison, Mont., from leave of absence.

Kirkpatrick, Thomas J., major, reported for duty at Fort Adams, R. I.

Phalen, James M., captain, reported for duty at New York City as attending surgeon.

Fox, James S., lieut., left Fort Sam Houston en route to Philippine Islands for duty.

Edie, Guy L., lieut.-col., orders so amended as to assign him to duty at headquarters, western division, San Francisco, pending departure of transport to Philippine Islands, about Nov. 6, 1911, instead of Oct. 5, 1911.

Bierbower, H. C., lieut., reports arrival at Fort Robinson, Neb.

De Quevedo, F. G., M.R.C., relieved from active duty in Medical Reserve Corps.

Bernheim, J. R., dental surgeon, reports his arrival at Fort Sheridan, Ill., from Columbus Barracks.

Smith, L. L., captain, reports departure from army medical school on four months' leave.

Richard, Charles, reports his arrival at Walter Reed General Hospital, for duty as commanding officer.

Smith, lieut-col., left Fort Sam Houston for Fort Snelling, Minn.

Hart, W. L., lieut., granted two months' leave of absence, to take effect about Oct. 12, 1911.

Bartlett, W. K., captain, leave of absence granted him Sept. 25, 1911, is extended one month.

Geddings, E. F., major, reports his arrival at Fort Snelling, Minn., for duty.

Appel, D. M., colonel, reports his arrival at Fort Sam Houston, Texas, from leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Oct. 7, 1911.

Hayes, O. A. A. surgeon, appointed acting assistant surgeon from Sept. 29, 1911.

Hathaway, G. S., P. A. surgeon, detached from the naval station, Olongapo, P. I., and ordered to the *New Orleans*.

Allen, D. G., asst. surgeon, detached from the *Elcano* and ordered to duty at the naval hospital, Canacao, P. I.

Bass, J. A., asst. surgeon, detached from the *Saratoga* and ordered to the naval station, Olongapo, P. I.

Hart, S. D., asst. surgeon, detached from the *Barry* and ordered to the *Elcano*.

Traynor, J. P., surgeon, detached from the navy-yard, Boston, and ordered to the *Dolphin*.

McLean, N. T., P. A. surgeon, detached from the *Dolphin* and ordered home to await orders.

Curl, H. C., surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the naval hospital, Mare Island, Cal

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

A NATIONAL DEPARTMENT OF HEALTH

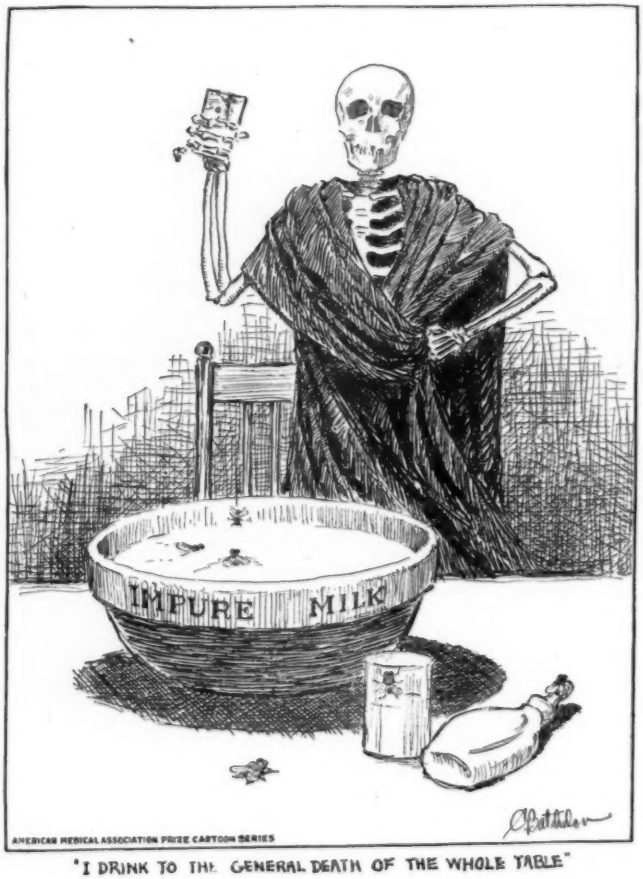
In a recent issue of *LaFollette's Weekly*, the personal organ of Senator Robert M. LaFollette, appeared an editorial on "Government Care of Public Health," a part of which is reprinted for the benefit of readers of THE JOURNAL.

"The speech of Senator Works of California from the standpoint of a Christian Scientist in opposition to the bill so ably championed by Senator Owen, has attracted wide attention to the subject of establishing a national department of public health.

"We must concede that if one believes there is no such thing as sickness or disease, then all scientific research into cause and prevention, quarantine and sanitation laws, and crusade against carriers and sources of contagion, must appear useless.

"But if we believe disease and sickness deplorable facts in human life, just as we believe health and vitality desirable conditions, then we must be anxious that the work done by our government for these objects should be encouraged, correlated, and brought to the highest efficiency.

"If we want pure food, cold storage conditions regulated, mosquitoes, flies, rats and other carriers of fever and plague exterminated; if we want the spread of tuberculosis, meningitis, and children's diseases stopped; if we want child labor laws, limitations of hours of women's work, proper health conditions in our public schools, then we should favor a national department of health.



"I DRINK TO THE GENERAL DEATH OF THE WHOLE TABLE"

"Scattered through all the various departments, State, Army, Navy, Interior, Agriculture, these subjects are now being considered in various ways. I pick up at random from my desk a report of the Marine Hospital. It relates to plague prevention work—cholera, leprosy, small-pox. It publishes municipal ordinances, pertaining to public hygiene, care of milk, protection of foodstuffs, garbage collection, sanitary and plumbing code. One report of the Department of Agriculture is a treatise on the extermination of hydrophobia; another relates to 'How Insects Affect Health in Rural Districts.' The latest report from the Bureau of Education is a volume on schoolhouses in their relation to health.

"It seems to me a reflection on our national intelligence and a commentary on our commercialism that the nations of Europe should have departments of health and education and we should be content to have these great fundamental subjects scattered about in different bureaus, as though they were of secondary importance in our national life.

"The opinion seems to have gained wide credence that the department is to be organized to promote some school of medicine. Nothing could be more erroneous. Mr. George H. Shibley, a resident of Washington in high standing, devoted to public interest, whose wife is one of the ablest osteopathic physicians in the country, made this statement to the Senate committee holding hearings on the bill:

"'It being a settled fact that the control of the licensing system is in the states, and there being in the states no tendency to surrender that power, it follows that the osteopathic physicians, the homeopathic physicians, and the eclectic physicians, whose occupations are licensed under state laws, are in no danger from a national health department. . . . The need for the establishment of a national health department is most pressing. The people are less protected from disease and death than are their cattle and hogs. A properly conducted department of health can do for the people in general what the Department of Agriculture is doing for the farmers. All of the people are vitally interested in the proposed department, while only about one-half of them are directly interested in the Department of Agriculture.'"

GRADUATE COURSE

Second Month — Second Weekly Meeting

FRACTURES OF VAULT OF CRANIUM

VARIETIES: Fissured, fragmented, comminuted, perforated, simple and compound. Fracture of inner or outer table alone. Depression, central and peripheral.

Mechanical principles involved "bending" and "bursting" fractures. Lines of fractures.

PROGNOSIS: Depends on brain injury and infection. Extent of injury, area of brain involved, degree of depression, simple or compound fracture. Remote effects, headache, epilepsy and insanity.

TREATMENT: (1) Fracture without depression and without cerebral symptoms, (2) with depression, (3) with cerebral symptoms, (4) compound fractures.

FRACTURE OF BASE OF CRANIUM[1]

PATHOLOGY: Usual points of impact, beginning points of fracture, line of fracture, transverse, longitudinal, diagonal, circular. Effects of bilateral and unilateral compression. "Counter-stroke."

DIAGNOSIS: (1) History of character of blow or injury, site of impact, etc. (2) Ecchymoses—In eyelids, about eyes,

1. Rawling: Lancet, April 9, 1904. Crandon and Wilson: Annals of Surgery, December, 1906. Progressive Medicine, March, 1905, 1907 and 1910. Phelps: Annals of Surgery, Vol. I, Nos. 3 and 4, 1909.

mucous membrane of pharynx, mastoid region, post-cervical region. Time of appearance. Differentiate from local injuries. (3) Flow of brain tissue, blood and serous fluid—In external auditory canal. From nose. From pharynx. Significance of each. Differentiate in case of hemorrhage. (4) Disturbance in function of cranial nerves. Forms of injury. Sites of injury.

TREATMENT: Disinfection of aural and nasal cavities. Drainage. Removal of fragments. Rest.

DIFFERENTIAL DIAGNOSIS OF "CONCUSSION" AND COMPRESSION OF BRAIN: (1) Onset of symptoms, (2) special senses, (3) respiration, (4) pulse, (5) nausea and vomiting, (6) bowels, (7) bladder, (8) deglutition, (9) voluntary muscles, (10) pupils, (11) prognosis.

Society Proceedings

COMING MEETINGS

American Association of Railway Surgeons, Chicago, Oct. 18-20.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Society of Virginia, Richmond, Oct. 24-27.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.

MICHIGAN STATE MEDICAL SOCIETY

Forty-Sixth Annual Meeting, held at Detroit, Sept. 27-28, 1911

The President, DR. C. B. BURR, Flint, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. D. Emmett Welsh, Grand Rapids; vice-presidents, Drs. Guy L. Connor, Detroit; Neal S. McDonald, Hancock; George C. Hafford, Albion; George D. Carnes, South Haven; secretary-editor, Dr. Wilfrid Haughey, Battle Creek; delegate to American Medical Association for two years, Dr. E. T. Abrams, Dollar Bay; alternate, Dr. Arthur D. Holmes, Detroit.

Resolutions were adopted expressing satisfaction and pride in the work of Dr. Wiley and commending the action of President Taft in supporting him.

Paranoia and Certain Paranoid Conditions in Their Relations to the Public and the Profession

DR. C. B. BURR, Flint: The identification of paranoia as a distinct form of insanity marks a psychiatric advance. It has been a useful classification, but like many others subserving an important end has been very much overloaded. While thirty years ago the term was not in frequent employment even among psychiatrists, it is now commonly used by everyone, and its definition is stretched to cover a multitude of faults of disposition, eccentricities, and temporary or permanent departures from conventional standards of thinking, feeling and acting. It has been found a convenient cloak to shield from punishment, and it seems important that a clear understanding of its fundamental character should be presented to the medical profession, the members of which themselves often employ the term loosely and without regard to consistency.

Briefly, this is a non-dementing form of disease of slow and insidious development. It is the outgrowth of a morbid personality, and evolution of a crooked stick. Its delusions are logically evolved from false premises, and in their defense the individual is sagacious and shrewd. Its life history is consistent and its progress marked by certain well-defined epochs. There are: first, the incipient period; second, the persecutory period; third, the period of developed and logical delusions. In contrast with this form of disease is the paranoid form of dementia præcox. The existence of dementia præcox implies early reduction of brain force and hereditary tendency—the neuropathic organization—is an important factor in its development.

There are included in the designation dementia præcox, various forms of disease described under old-time classifications, as the insanity of pubescence, insanity of masturbation, ovarian insanity, kathtonia and stuporous melancholia. Perception and memory may be acute, but reasoning and judgment are not correspondingly developed. These patients are in infancy erratic, hysterical, impulsive, and lacking in inhibitory control. They are subject to headache and frequently break down under school pressure. There are not infrequently encountered among alcoholic cases those showing delusions of suspicion, or persecution, or extravagance. The overweening self-confidence, a marked quality of the habitual tippler, goes over with no lack of readiness into an absurd self-appreciation and extravagance of thinking and doing. Ideas of persecution develop, and it is not difficult to believe that the individual's self-criticism is a basal fact in the impression that the outside world is censorious. Similarly the connection of certain manifestations in these cases with sexual wasting is readily established.

A paranoid condition from alcoholism is differentiated from the foregoing insane state by: 1. The presence of a definite provocative factor—alcoholic indulgence. 2. The existence of delusions of persecution and infidelity, possibly also those of an expansive character, all quiescent under abstinence from drink, lighted into extreme activity by the inebriating. 3. The tendency toward recovery under well-directed treatment.

Problems in the Diseases of the Thyroid

DR. CHARLES H. MAYO, Rochester, Minn.: Disease due to lessened secretion of the thyroid is brought about by a thinning of the secreting epithelium in the presence of colloid or other retained secretion, even though the actual size of the gland may be increased enormously. In operating on such glands it is advisable to leave some of the tissue next to the capsule, for the tissue on the surface of the gland retains its powers of producing the internal secretion. Frequently thyroids which have been in this state of lowered secretive power suddenly become hyperactive, and often symptoms of Graves' disease develop. This is brought about by a development of epithelial gland cells growing into the colloid filling the ascini in the gland. Such sudden development of exophthalmic symptoms is usually attributed to some recent occurrence such as a fall from a horse, or a severe shock. The accident may have something to do with the sudden development of the symptoms, but the patient has been in a state where the body was barely able to take care of the extra secretion, and the exophthalmic symptoms were only awaiting a chance to light up.

In the case of patients in too poor physical condition for operation, I advocate the tying of one or more of the thyroid arteries. This is not a harmless operation, for I have lost three patients out of thirty-seven following this operation.

After tying the vessels, there is a discharge of thyroid secretion (internal) which almost overwhelms the patient. As soon as the diarrhea and other severe symptoms are over—about a week—the gland should be removed, for then the patient is in the best condition. The gland is empty of internal secretion, and the operation is much safer than if one waits until the gland has an opportunity to recover from the first active discharge. Practically all the thyroid cases, outside of those between the ages of fifteen and twenty-three, or during pregnancy, are surgical. During these two periods of a woman's life it is natural for the thyroid to enlarge somewhat.

In all other cases the surgeon should be consulted early. Graveyards are filled with people who have been treated medically and then rushed to the surgeon as a last resort. In such cases, if blood has been drawn, the patient "died of an operation," not of the disease, or of the medical treatment. The surgery of the thyroid gland is constantly improving, but advance has been at the cost of many lives that we are now able to save. Twenty-five per cent. of these patients will recover symptomatically, 25 per cent. will die no matter what the treatment, which limits us to the middle 50 per cent. in our surgical work, and we can save about half of these.

(To be continued)

INTERNATIONAL MUNICIPAL CONGRESS AND EXPOSITION

Held in Chicago, Sept. 18-30, 1911

(Concluded from page 1229)

Disposal of Garbage

DR. A. F. STORKE, Oak Park: Garbage should be collected every day, if feasible, or at least every other day; garbage should not be fed to hogs; it is not rich in nitrogenous matter and is a poor fertilizer and should not be used for that purpose; it should be burned at a temperature of 1,250 F., or over. If a municipality is so equipped that it can reduce refuse, a considerable return can be made thereby on the money expended. Garbage should be burned in household burners if the latter are properly cared for and maintained. Garbage should not be placed on dumps, or thrown on the ground. Flies can be kept away from garbage by having the garbage drained, wrapped in paper and put in cans, and the cans kept as reasonably clean as other articles in the kitchen. Garbage should be hauled in tight metal carts, with the tops kept down at all times.

In 1909 an eight-furnace incinerator was constructed in Oak Park, capable of handling 50 tons of garbage a day. This incinerator required for collection of garbage and its care five men, five horses and two carts. The incinerator handled 5,033 tons of garbage at a total cost of about $1.75 a ton. About 200 pounds of coal is used to a ton of garbage consumed.

DR. SAMUEL GREELEY, superintendent of garbage disposal of Milwaukee, described the Milwaukee refuse incinerator which is designed to handle 300 tons of mixed refuse, that is, garbage, ashes, rubbish, in 24 hours. The ingredients are mixed on a floor above the furnace and then discharged into the furnace by a mechanical stoker. The temperature ranges from 1,200 to 1,600 degrees F. He found that a mixture of 60 per cent. garbage and 40 per cent. ashes and rubbish will burn at a temperature above 1,200 degrees. The cost of operation is varied from 86 cents to $1.05 a ton, depending partly on the labor and the quantity of garbage and refuse handled. When more refuse is delivered to the plant it can be handled more economically than in smaller quantities.

Cost of Health Department Per Capita

MR. C. B. BALL, chief sanitary inspector of Chicago, presided over this section. He discussed the cost of health department work and whether school inspection, tenement inspection, building plan inspection, tuberculosis work, and garbage collection should be charged against health work cost.

DR. GOTTFRIED KOEHLER, assistant health commissioner of Chicago, quoted the address of Dr. Evans, in which he said: "A health department in Chicago costing 25 cents per capita can hold the gross death-rate under 16 per 1,000 for a few years. It can hold the number of deaths from diphtheria at about 800 (3.75 per 10,000); from scarlet fever at about 600 (3.50 per 10,000); typhoid at about 300 (1.33 per 10,000), and baby deaths from summer complaint at about 3,000 (1.4 per 10,000). It can keep small-pox epidemics about 12 years apart and paralyzing epidemics of diphtheria or scarlet fever about four or six years apart."

"A health department spending 50 cents per capita should put diphtheria down to, say, 100 deaths per year; scarlet fever to about 500; typhoid to 120; and cut off 5 per cent. from the tuberculosis mortality. It should be able to add ten years to the small-pox intervals, and three or four years to the diphtheria and scarlet fever intervals." He said that, in addition, he believed the infant mortality could be reduced to 2,500 or less; that accidents at birth, and blindness could also be materially reduced; that venereal diseases could be lessened and following this would come lessening of organic cardiovascular and nervous diseases.

A health department costing one dollar per capita could accomplish and improve the conditions before stated and materially improve the sickness rate from colds, pneumonia and tuberculosis. The living and working conditions could be improved so that the mortality, morbidity and incapacity from impure-air and occupational diseases would be materially reduced. Nutritional diseases of infancy and childhood could be dealt with so that a saving of 25 per cent. in the death-rate would result.

Again quoting Dr. Evans: "A $3.00 per capita health department would cause small-pox to recur only at very long intervals; diphtheria to disappear as an endemic disease; the typhoid rate to fall from its present rate, 15 per 100,000 to 1 or 2 per 100,000; would cut the rate from tuberculosis to one-half its present figure; decrease the loss from colds by one-third; increase the efficiency of the school child 20 per cent.; increase the efficiency of labor, say, 10 per cent.; accomplish nearly as great an improvement in efficiency of human effort and in health conditions over the conditions now prevailing as the $3.00 per capita health administration in the Panama Canal Zone has increased health security and efficiency over that which formerly prevailed there.

"A $10.00 per capita health administration continued for fifteen years should eliminate tuberculosis, small-pox, diphtheria, and typhoid; should greatly lessen scarlet fever; should halve the baby death-rate; should halve poverty and materially decrease crime; should increase the efficiency of labor materially."

Dr. Koehler stated that hospitals for communicable diseases, dispensaries and clinics for contagious and communicable diseases, including venereal diseases, and ambulances for communicable diseases should be charged to the cost of health department work.

AMERICAN ROENTGEN RAY SOCIETY

Twelfth Annual Meeting, held in Richmond, Va., Sept. 20-23, 1911

(Continued from page 1230)

Duodenal Diagnosis

DR. E. H. SKINNER, Kansas City, Mo.: We have been able to base a mechanical diagnosis of duodenal ulcer on the following: When a bismuth and water suspension is swallowed by a fasting patient, it readily passes the pylorus into the duodenum (because the acid stomach content is not taken up as when food is offered the stomach, neither is there a closure of pylorus as when a food bolus is swallowed). The stomach appears normal after the ingestion of a bismuth meal (2 ounces of bismuth oxychlorid to 13 ounces of wheat porridge), but there is a vigorous peristalsis and a rapid emptying of the stomach in as short a time as one-half hour, and at least in two hours. The duodenum seems to be sluggish and casts a shadow for a longer interval than usual, but the food rapidly traverses the remaining portion of the small intestines. By this method of filling the duodenum there may be found present an hour-glass contraction at the site of the ulcer. Usually, the duodenum is sluggish and does not exhibit any pronounced peristalsis. When the duodenum is filled and pressure is made at the outer curve of the duodenum, as shown by the shadow, the patient usually experiences some pain or discomfort. I place the greatest weight on the rapid emptying of a stomach that exhibits the usual normal J-shaped shadow and a vigorous peristalsis.

The Roentgen Rays in Neurasthenia

DR. ARTHUR HOLDING, Albany, N. Y.: Neurasthenia and other neuroses are often caused by conditions which do not have their origin in the nervous system, and which may be detected by the Roentgen ray; therefore, it is advisable that all these patients be examined thoroughly by a competent Roentgenologist. A few illustrative cases are the following: CASE 1. Obscure progressive paralysis of the arm, shown by the Roentgen rays to be due to a supernumerary rib. CASE 2. Epileptiform convulsions, shown to be caused by unerupted teeth. CASE 3. A very obscure gastro-intestinal condition due to cardiospasm. CASE 4. Neurasthenia with obscure constant pain caused by hour-glass contraction of the stomach. The patient was regarded as a neurasthenic for twenty years. CASE 5. Auto-intoxication with nervous prostration, regarded as a case of neurasthenia due to visceroptosis. CASE 6. Neuras-

thenia proved to be a case of tuberculosis of the lungs. CASE 7. Neurasthenia cured by the removal of a stone from the kidney. CASE 8. Patient unable to walk because of pain in the feet and legs. Thought to be due to a broken-down arch. The Roentgen ray showed an arteriosclerosis in the arteries of the feet and determined the case to be one of intermittent claudication. CASE 9. A painful condition of the wrist supposed to be a neuritis, shown, however, to be caused by tuberculosis of the bones. CASE 10. Severe case of neurosis which proved to be caused by a dislocation of the symphysis pubis.

Dental Defects as a Cause of Epilepsy

DR. HENRY K. PANCOAST, Philadelphia: I wish to call attention to the importance of including a careful examination of the teeth as a part of the general routine examination of all cases of idiopathic epilepsy. Dental defects may exist and be responsible for the epilepsy. In three cases examined by me such defects proved to be etiologic factors because when they were remedied the patient was free from epileptic attacks. Such defects may exist without any clinical manifestation; in fact, that is the rule; therefore, it is advisable in all cases of epilepsy to include as a part of the routine examination of the head a careful examination of the teeth. This is especially important in the case of children, although cases have been discovered in adults where the epilepsy was caused by dental conditions. Any defects found must be remedied early, in order to do any good, as they are usually, perhaps, only a contributing factor in the etiology of the condition. Moreover, in view of this fact there should be no relaxation in the vigorous application of any other therapeutic measures that have been practiced, or which may be indicated.

Discussion on Papers of Drs. Holding and Pancoast

DR. E. H. SKINNER, Kansas City, Mo.: I once heard a man speak against machine-made diagnoses, and yet diagnoses made by mechanical means are superior to mere gray-matter diagnoses. The thermometer, microscope, Roentgen ray and blood-pressure apparatus have superseded less accurate and exact aids in diagnosis. Many cases of gastro-intestinal disturbance have been diagnosed as neurasthenia until the Roentgen ray disclosed an ulcer of the stomach, which was substantiated by a careful inquiry into the history of the patient. The gastro-enterologist claims that gastroptosis is the cause of neurasthenia, while the neurologist holds that neurasthenia is responsible for the gastroptosis. The Roentgen ray will often disclose a condition which, if corrected, will dispel the neurasthenia.

DR. GEORGE C. JOHNSTON, Pittsburgh: As for neurasthenia being caused by unerupted teeth, it is probably true that there is some connection between the irritation of impacted teeth or any other constant irritation and epilepsy—but only in the case of an individual who is going to have epilepsy anyway. For three or four years I have examined cases of impacted teeth removed by two extraction specialists, but I have yet to see a single instance of epilepsy from this cause. As for neuralgia: I was asked to examine a gentleman who had been suffering intensely from tic douloureux for a long time. Careful examination with the Roentgen ray finally disclosed a little area of caries just under the gum margin, in which there was a tomato seed. When that was removed the neuralgia ceased, and it has not returned since. In another case the nervous disturbance was due to abscessed incisor teeth.

DR. GEORGE E. PFAHLER, Philadelphia: I was asked to examine a woman who had a neuralgia in her right foot. The neurologist who referred the lady to me scouted the idea that the neuralgia might be caused by an abscessed tooth, although I had found two such teeth in the roentgenogram. Two years later another physician referred the patient to a dentist, who treated these two teeth, and the neuralgia promptly disappeared.

DR. CLARENCE E. COON, Syracuse, N. Y.: At the age of 17, a man began to have attacks of epilepsy which increased in severity and frequency until his mind became affected. His family finally had to place him in an asylum for the insane. He became violent and unmanageable. I was asked to examine him and found four impacted wisdom teeth, which I advised to have extracted. This was done, and from that time on this man has not had a single attack of anything like epilepsy. Within two weeks after the operation he was rational and quiet. He gained rapidly in weight, and is now entirely well.

DR. HENRY K. PANCOAST, Philadelphia: I would not want to create the impression that I believe that epilepsy is solely caused by impacted teeth, or other dental conditions. In epilepsy, as in any other disease, perhaps more so, you must have the soil in which the seed can develop. It is particularly in those cases where the dental conditions do not give rise to clinical phenomena that we must include the mouth and teeth in our examination. But this is only one factor which may cause the epilepsy.

Roentgen Diagnosis of Position in Pregnancy

DR. P. M. HICKEY, Detroit, Mich.: It is possible to make a Roentgen diagnosis of the position of the fetus in utero without apparent injury to the mother or fetus. The differential diagnosis between single and multiple pregnancy can be made with certainty. The cases I investigated went on to term and normal delivery. Careful examination of the child failed to reveal anything indicative of damage done by the ray.

(To be continued)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Twentieth Annual Meeting, held in Milwaukee, Sept. 26-29, 1911

(Continued from page 1229)

Award of Association Prize

The first annual award of the prize of $200 presented by the association for the best essay submitted in competition on the subject "What Are the Best Available Measures to Diminish Venereal Disease Among Soldiers and Sailors, and Along What Line Should We Seek the Cooperation of the Federal, State and Municipal Authorities?" was made for the essay presented by Captain Edward B. Vedder, M.C., U. S. Army, who after noting the importance of the question of the prevention of venereal diseases and the ineffectual methods thus far adopted to prevent or limit them, made the following recommendations: 1. Reestablishment of the canteen. The author believes that the absence of the canteen has promoted intemperance, and as soldiers will continue to use alcoholic beverages even as civilians do, if drinking within the post is barred, they will go outside to disreputable houses, and many will become victims of prostitutes. 2. The compulsory and universal adoption of the following measures in the military services: (a) Organization of soldiers' and sailors' clubs to provide legitimate amusement for the men. (b) Instruction for every man in the services on the subject of venereal disease, by a well-written and illustrated pamphlet on the subject, on which the recruits should be required to pass a simple written examination before being sworn into the service. (c) Approved methods of personal prophylaxis after contact by thorough washing of the genitalia with soap and water followed by 1-2000 bichlorid; injection of 10 per cent. argyrol solution into the urethra and inunction with 33 per cent. calomel ointment; this treatment to be given at hospital, or from packet carried by the soldier. Every man returning from pass should be obliged to report at the hospital, state whether he has exposed himself to venereal infection and whether he has used the packet. If he has not used the packet, he will be given the prophylactic treatment. If he states that he has not exposed himself and subsequently develops venereal disease, he will be tried by summary court. (d) Physical inspection which has already been tried, but without great success in many cases. Inspection should be unannounced and unexpected and every medical officer in the post should take part in the inspection. (e) The venereal register. This register which is generally kept at the hospital, at present, should go with the man when he is transferred to another post or another ship. This will require a change of existing regulations, as the surgeon, who alone has these histories, is not informed when the man is transferred. This would prevent many readmissions, some of which are carried at present "in line of duty" because of this lack of previous medical history. 3. Stoppage of pay. This is the logical

punishment for those men, who with the above recommendation in force, still contract venereal disease, and is intended chiefly to compel men to use the prophylactic. Statistics show that 7.5 per cent. of all men fail to report on return from liberty and 18.8 per cent. of the total number of venereal diseases in the sick reports may be attributed to this cause. Another large percentage is due to denial of venereal exposure.

These measures are applicable in both Army and Navy, and are independent and each essential to success. For this reason he believes that all these methods should be universally enforced by War and Navy Department orders. Congressional action would be necessary for the reestablishment of the canteen, the obtaining of appropriations for men's club houses, and the enactment of a law providing for stoppage of pay while on sick report on account of venereal disease not contracted in line of duty.

He next took up the cooperation desired with the federal, state and municipal authorities and suggested as regards the federal authorities that the services should do all in their power to further the appeal now before Congress for a national department of public health, which could make a thorough study of the subject of venereal diseases in the United States; that the federal authorities should be asked to take more severe measures than have yet been adopted for the suppression of the interstate and international traffic in white slaves by which the ranks of the prostitutes are largely recruited and that the postoffice authorities should be asked to deny the privilege of the mails to the fraudulent mail order concerns that advertise to treat venereal diseases. The state and municipal authorities, he suggests, should adopt the following measures: Compulsory notification of venereal diseases which can be studied and controlled, by knowing where the cases are; segregation, inspection and treatment of prostitutes found to be diseased; abolition of liquor selling in houses of prostitution, and of soliciting on the streets, and the education of the young of the land in matters of sexual physiology and hygiene.

Captain Vedder acknowledged that none of the measures recommended was ideal and that the elimination of venereal diseases could never be obtained until human nature is quite altered, but he argued that the adoption of the measures recommended would undoubtedly result in a considerable reduction in the incidence of these diseases.

Dementia Præcox and Alcoholism

CAPTAIN L. L. SMITH, M.C., U. S. ARMY, after a thorough discussion of this question, including a careful study of the literature, believes that this subject is most important from the standpoint of the military surgeon, as dementia præcox is the most frequent form of mental disease observed in patients admitted from the military service to the Government Hospital for the Insane. In the fifty-nine cases which the author analyzed, it was noteworthy with what frequency alcoholism was given as an etiologic factor in the production of this form of psychosis. Indeed, in the early stage of the disease, it was not always possible in these cases of dementia præcox combined with alcoholism, to make an accurate diagnosis. The history of the patient, especially if he had been sent to the hospital from remote military posts, would often indicate that the prominence of the alcoholic symptoms at the onset of the psychosis had resulted in a diagnosis of an alcoholic psychosis. In the fifty-nine cases studied there was a history of alcoholic excesses in 21 cases, or 35.6 per cent., and 6 or 10 per cent. were mixed cases of alcoholism and dementia præcox. Acute and subacute alcoholism, more frequently complicated these cases than the chronic form. The cases of chronic hallucinosis in which the alcohol may act as a disintegrating factor, frequently turn out to be dementia præcox.

Military Absenteeism in War

MAJOR EDWARD L. MUNSON, M.C., U. S. ARMY: The medical department in war is charged with the administration of the sanitary service, and especially with the methodical disposition of the sick and wounded, so as to insure the retention of those effective, and relieve the fighting force of the non-effective. While the army surgeon remains a doctor in respect to his usefulness in the field of professional service, he must exercise his restorative effects with ailing individuals toward an end, the purpose of which is essentially military and not humanitarian. At the beginning of the Civil War, five soldiers were present for about every one absent. A year later three were present for every one absent. In the third year, two and one-half, and in the final year, less than two men opposed the enemy for every man absent. Though this grave proportion of absentees received the early attention of the military authorities and military measures were taken for its prevention, it continued to increase despite of all efforts until more than one-third of the armed land forces of the United States were absent from the colors and beyond military control, and to this absenteeism officers particularly contributed.

Absenteeism may be regarded in general as an expression of dissatisfaction with military service and conditions, as the statistics show that in the Federal Army in commands of an average effective strength of 662 men, 258 were absent from cause rather than illness, and only eighty by reason of sickness in hospital. Factors were a low standard of discipline, and improper location and management of general hospitals, most of which were far distant from the seat of military operations, and were under management of civilian physicians, or under state control, instead of being under the exclusive control of the Medical Department of the Army. Another factor was wrongful admission of soldiers to sick report. Malingering does not appear on the records of the Civil War with 6,454,834 admissions to sick report, nor on the records of the Spanish-American War with 317,195 such admissions. The first aim of a malingerer is to be enrolled on the sick report, the second, to be separated from his regiment and sent to a general hospital, from which he then secures, by favor or political influence, a sick furlough, and once at home, certificates of physical disability are unfortunately easy to be obtained.

At the outbreak of the Civil War, there were only eighty-one medical officers of the regular establishment available for duty with troops and this was insufficient to leaven the mass of 14,000 civilian medical men employed in various professional capacities during the war. These latter were as a rule not accustomed to the detection and handling of cases of feigned disease. In the Spanish-American War a similar condition was found, so that it became necessary to issue an order absolutely putting it out of the power of any medical officer to legalize absenteeism by reason of sickness without the final approval of the officers. In the Philippine Islands orders prescribed that sick furloughs should be no longer granted on the recommendation of a single medical officer, but the individual should be sent to the Division Hospital, Manila, for observation and final recommendation by a carefully chosen board of medical officers.

Many men have been discharged from the military service on surgeon's certificate of disability. In the Civil War 223,525 were so discharged; a greater number than those who died of wounds—34,773, who died of disease—183,287, who deserted—199,045, or who were killed in battle—61,362.

The causes assigned for discharge were not convincing; 11,779 discharges were granted for rheumatism, 10,636 for heart disease, 16,185 for diarrhea; 14,500 for debility; 3,872 for epilepsy, 3,729 for bronchitis; 2,038 for varicose veins; 1,415 for varicocele and 1,598 for piles.

Remedies are: better discipline, abolition of political influence—a grave condition under our form of government—careful scrutiny of admissions to sick call, etc. Medical officers should always work in conjunction with line officers, as the latter know better the characteristics of the men in their command. The functions of the regimental dispensary which is intended to care only for emergency cases and the slightly sick or injured should not be used. Severe cases should always be transferred to the field hospitals. In the field hospitals undeserving patients who have been successful in evading duty and leaving their command may be halted in their progress

toward the rear and home, and their escape thus prevented. The same applies to evacuation, base and general hospitals, where the diagnosis should be carefully scrutinized and doubtful cases reexamined and passed on by an independent medical board. Similar medical boards with similar powers of limitation of invalidism should be established at the limits of the various sanitary zones along the line of communication.

The various humanitarian relief societies may readily be perverted by designing individuals into innocent promoters of fraud. They should be under firm and tactful military control.

Dr. Munson's paper was a plea for a stronger, more business-like administrative management of the medical department in time of war. He attempted to demonstrate the economic and military need of maintaining and training in peace the not inconsiderable number of medical officers required in time of war to maintain the strength and efficiency of commands; the utter chaos resulting from expectation that civilian physicians will appreciate and properly perform other than purely professional duty in time of war, and that, in addition to the humanitarian side of the work of the medical department, it has other obligations which form the very foundation of military efficiency and which, in time of war, need to be recognized by both line and medical officers in their true and paramount importance.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Fourth Annual Meeting, held in Louisville, Ky., Sept. 26-28, 1911

(Concluded from page 1227)

Congenital Mucoid Multicystic Tumor of the Small Intestine

DR. H. W. LONGYEAR, Detroit: The tumor was about 2 inches in length, situated subperitoneally on the sides and mesenteric aspects of the small intestine, and was composed of an aggregation of small cysts, filled with mucus. The case was discovered accidentally during an appendectomy. The tumor was not removed, as it was apparently benign and causing no symptoms.

Diseases of the Thyroid in the Female

DR. MILES F. PORTER, Fort Wayne: Women are five times more prone to thyroid disease than men. The thyroid was originally a sex organ. The thyroid is especially active during the period of sexual activity, and increases in size during menstruation and pregnancy. The toxemia of pregnancy and puerperal infections are probably often due to inactivity of the thyroid. Goiter may be due to disease of the genital organs. Disease of the thyroid may cause amenorrhea, dysmenorrhea, menorrhagia, sterility, mental aberration, premature separation of the placenta and chlorosis. Goiter in the mother often produces bone deformities in the offspring.

DISCUSSION

DR. WILLIAM D. HAGGARD, Nashville: A few days ago I saw a woman with exophthalmic goiter who married last November, at the age of 30, and in January had marked enlargement of the thyroid, with tachycardia, tremor, and a beginning exophthalmos. She conceived in February and aborted in May. During her pregnancy her symptoms were considerably exaggerated, and an interesting feature was that these symptoms all subsided after the miscarriage. She still has a chronic hyperthyroidism which has recently become more active and for which I think a partial thyroidectomy will relieve her.

DR. HUGO O. PANTZER, Indianapolis: I removed a fibroid tumor of the uterus, doing a unilateral oophorectomy in a woman who had at the time moderate Graves' disease. Within twenty-four hours after the operation this patient had a very conspicuous thyroid. The following morning I found that the thyroid had subsided completely so as to be no longer palpable. Nine or ten days afterward the patient developed bilateral trouble, and then had hyperthyreoidea in the worst degree from which she recovered only slowly within the next two months.

DR. ALBERT VANDER VEER, Albany: Ten years ago I removed a fibroid tumor from a woman 31 years of age. She had a marked enlargement of the thyroid. Her uterine appendages had been removed at the time with the fibroid, and she had gone along without any unpleasant symptoms. Ten years later she had all the marked symptoms of goiter, with hot flashes, etc. On examining her I found that the thyroid was slightly enlarged. She presented many of the symptoms of exophthalmic goiter. Her case cleared up nicely under the use of the thyroid extract, but the cause of the condition and the therapeutic remedy given for it were not clear to my mind.

DR. EDWIN WALKER, Evansville: A number of years ago I had an experience along this line that made a deep impression on me. The patient came from a highly neurotic family; had suffered from epilepsy during her early life. At about puberty these attacks became worse, and a good deal of the time the patient was in the condition of status epilepticus, having from forty to sixty attacks a day. Bromids had no effect whatever on these convulsions. A few symptoms suggested the possibility of hypothyroidism. I fed her on partially cooked thyroids, and her recovery was remarkable and rapid. Whenever I would stop the administration of this thyroid extract there would be a return of the symptoms. I kept her on thyroid extract for a year or more. She has been under my observation since that time; she was 15 years of age then, and 35 years of age now, and she has been entirely relieved of her epilepsy.

DR. ROLAND E. SKEEL, Cleveland: Last year I saw a patient who was choking rapidly because of a rapid enlargement of the thyroid. She was eight months pregnant. She had an attack of dyspnea, and she had such a severe stridor that it could be heard across the corridor. She had an enormous thyroid which was removed under local anesthesia, and being fearful she might be delivered of an eight-months child, I ordered a small dose of morphin. After giving the morphin, she had very marked toxemia of pregnancy, so much so that the urine contained from 10 to 15 per cent. of albumin. This is contrary to what is observed under these circumstances. There was a rupture of the bulb of the jugular vein, and she died instantly. The house surgeon made a post-mortem Cesarean section and secured a living child. The child lived a few weeks, then died from ordinary marasmus.

DR. WILLIAM H. HUMISTON, Cleveland: We see many cases in which we have a rapid pulse and a great many symptoms that we are at a loss to account for, and examination of the thyroid shows no enlargement whatsoever. My experience in these cases has been that with the administration of the thyroid extract I have universally obtained good results.

DR. ROBERT T. MORRIS, New York City: If we have a hypothyroidism, the thyroid extract furnishes a substance which is not furnished in sufficient quantity by the gland itself. If we have a hyperthyroidism, it often means that we have a compensatory hypertrophy of the gland which is under great demand, and in that case, if we give the thyroid extract we lessen the need for compensatory hypertrophy on the part of the gland, so that in certain cases of hyperthyroidism and incases of hyperthyroidism we use precisely the same therapeutic resource because of the two different groups of cases, but each case in itself becomes a study. In one case you will find with the *x*-ray alone you can overcome almost all of the symptoms of hypo- or of hyperthyroidism; in another case, with the thyroid extract you are using, while in another case you have to use both together, and in still another case you produce disastrous results with either one of the two.

Fibroids of Cervix

DR. LEWIS S. SMEAD, Toledo: Fibroid tumors of the cervix and uterine body below the movable peritoneum have not received the attention to which the great technical difficulties of their removal entitle them. The subperitoneal variety are most troublesome because of their immobility and the obliteration of landmarks they cause. Fibroid tumors of the cervix are found in about 5 per cent. of all women who have uterine fibroids. The tumor may arise in front, behind or at the side of the cervix, but the posterior growths are somewhat the most common. The physical characteristics of the tumors are not unusual, but the distortions of the pelvic organs,

especially of the vagina and bladder, are common. The cervical tumors, because of their position and their immobility, are very likely to block the birth canal. Small fibroids on the anterior cervix, projecting into the base of the bladder, may simulate almost exactly the male prostate. The bladder is usually enormously elevated and enlarged by being stretched out over the tumor. The vagina is much elongated and crowded out of position. The rectum and vagina are much thinned by pressure atrophy.

The ureters may be pushed up by a tumor or pulled up by adhesions. They may also be blocked by pressure or kinking. The rectum and sigmoid are raised up by tumors arising beneath them. The position of the upper end of the vagina is usually the key to the situation, and an examination under ether will often locate it. The operative treatment is radical, rarely palliative. The operative removal requires the use of special operative maneuvers, such as bisection of the uterus and tumor, enucleation, and excision of a large wedge of the tumor, or the classical side-to-side hysterectomy. The principle of the Doyen hysterectomy can often be employed with profit. The cavity left is very liable to infection from the rectum, and will usually have to be drained, although in some cases it may be obliterated and the abdomen closed.

Early Diagnosis of Ectopic Gestation

DR. R. R. HUGGINS, Pittsburgh: The diagnosis should be made previous to the final rupture and collapse in at least 80 per cent. of the cases. If a flow from the vagina begins in a period varying from four to five days to three weeks after the regular time, continuing more or less regularly, accompanied by pains periodic in character, located in the hypogastrium on either side, extrauterine pregnancy should at once be suspected by the physician, unless some other well defined condition is present to account for it. The vaginal hemorrhage may be dark-colored blood, coagulated at times; at others a blood-tinged leukorrhea, or in some instances bright red. This hemorrhage is doubtless due to a partial separation of the ovum from its cyst wall, or to the separation of the decidua from the uterus.

In ninety-five per cent. of the cases of ectopic pregnancy seen by me the history and local symptoms have overshadowed all others and seldom in the early weeks has there been present the general signs of pregnancy. Careful study of the history in fifty-two cases which had gone on to rupture in my own experience showed that in all but five there had been some irregularity of the normal flow and pain before the final rupture and collapse.

Interstitial Pregnancy

DR. N. STONE SCOTT, Cleveland: There are three subdivisions: (1) External interstitial pregnancy, attended with danger, because rupture usually takes place into the abdomen before the sixth month; (2) middle interstitial pregnancy, and (3) internal interstitial pregnancy. The use of the curet is the etiologic factor in the production of many of them. So-called false perforations of the uterus are frequently interstitial pregnancies. The second variety begins as interstitial, develops into the uterus, and terminates normally.

DISCUSSION

DR. JAMES F. BALDWIN, Columbus: Several years ago I reported six cases in which I made a diagnosis of ectopic rupture and operated.

DR. CHARLES N. SMITH, Toledo: The chief obstacle to early diagnosis in extrauterine pregnancy is the fact that a patient who is not suffering continuously or seriously does not consult a physician until the rupture has taken place.

DR. E. GUSTAV ZINKE, Cincinnati: The pathology of ectopic gestation is vast, and he who has not grasped it will fail to diagnosticate cases of ectopic pregnancy or will mistake them for something else. Tubal pregnancy, with normal genitalia, is an entirely different thing from an ectopic gestation occurring in a patient with a pathologic condition in the tube, the ovary and uterus. The symptoms of a tubal abortion are entirely different from those in a case of tubal rupture. In one case, the tubal abortion, the symptoms are not alarming, and the woman may recover, and the diagnosis may remain in doubt; while a case of tubal rupture, with an otherwise normal pelvic cavity, is so typical that no man can mistake it for anything else. Again, we have ectopic gestations which are strictly tubal and remain so from the beginning to the end, and they are the cases that are comparatively free from symptoms and go to the end of term with a living fetus, and they are easily removed because they are more or less pedunculated. No adhesions have taken place. In another case there may occur tubal rupture and the neighboring structures may become involved, and the fetus goes to the sixth or seventh month, when it dies for lack of nutrition and becomes encysted. In other cases the fetus undergoes solidification.

DR. HUGO O. PANTZER, Indianapolis: I would like to add another symptom to the signs and symptoms given by Dr. Huggins which is invariably present, namely, a pulsating tumefaction on one side and not on the other. In rare instances it is attended with marked congestion or with tubal inflammation.

DR. CHARLES L. BONIFIELD, Cincinnati: A great many women with ectopic gestation get well without operation. It is the experience of every operator, that after he has examined the specimen, he has wished he had left the patient alone.

DR. WILLIAM H. WATHEN, Louisville: I have had approximately 150 of these cases, and of that number but one patient bled to death. That occurred about twenty years ago. I reached the patient just as a secondary hemorrhage had caused her death. These patients will not bleed to death if the rupture is between the folds of the broad ligament, and seldom or never if it is a tubal abortion. They may have a rupture through the tube into the peritoneal cavity. I believe that not one out of twenty-five women has died from secondary hemorrhage.

DR. WALTER B. DORSETT, St. Louis: A woman ran up to the third floor, fell, and died suddenly. A post-mortem examination disclosed the abdomen full of blood. She had bled to death from ruptured ectopic pregnancy. These women bleed to death more frequently than is stated by Dr. Wathen.

DR. A. B. MILLER, Syracuse: The general practitioner in many instances is not called sufficiently early to make a diagnosis. These patients feel perfectly well, but in six hours they become desperately ill, showing that rupture has taken place. We cannot always make an absolute diagnosis by the symptoms and physical findings.

DR. D. C. MORIARTY, Saratoga Springs: I believe it is well to operate early in these cases of ectopic pregnancy.

DR. MILES F. PORTER, Fort Wayne: It is not true that none of these women die of hemorrhage. I can find fifty men who operate on these patients practically as they come, and they will have a lower death-rate than another fifty men who practice the *finesse* referred to, and that is the reason I am not in favor of this extreme diagnostic *finesse*.

DR. WILLIAM H. HUMISTON, Cleveland: As a rule, these patients do not consult a physician unless they are very nervous and are in pain, and that is why a great many of the cases are not diagnosed before rupture.

Radiographic Diagnosis of Gastric and Duodenal Lesions

DR. LEWIS GREGORY COLE, New York City: Anatomically and physiologically the first portion of the duodenum has always been considered a part of the small intestine, but normally it is dilated into a triangular cap which surmounts the pylorus and corresponds in size and shape with the stomach, and has absolutely no resemblance to the small intestine. Its motor phenomena correspond with those of gastric peristalsis, and it is absolutely free from the small, rapid, peristaltic contractions of the remaining portion of the duodenum. It is probable that the chyme in this portion has not yet been neutralized by the intestinal and pancreatic secretions. This may account for the fact that 90 per cent. of duodenal ulcers occur in this portion. I consider the pyloric sphincter as guarding the entrance to the intestine and allowing only that food that is recognized as properly prepared to be served to the intestine, and closing the door to prevent it from falling

back into the stomach during diastole. The relative strength of the pyloric sphincter to the peristaltic contraction of the stomach is one of the most important factors in functional derangements of the gastro-intestinal tract. The diagnosis of gastric carcinoma at an early stage is now accomplished in a very large percentage of cases, and the radiologist is justified in either making a negative diagnosis or stating with certainty that there is either a benign or malignant lesion which requires an immediate operation.

Lipectomy for the Obese Abdominal Wall

DR. FRANCIS REDER, St. Louis: I have followed during abdominal operations the suggestion of Dr. Kelly to excise enough of the obese wall to facilitate intra-abdominal work, and in my experience in five cases the intra-abdominal work was rendered less difficult; but in two of the cases this fat caused considerable trouble, which was induced by a late section. It does not require any particular skill to cut away enough of the fat about the field of operation to get a sufficient amount of room for easier work; but it does require some knowledge to ablate these masses of fat that no untoward consequences may arise. To prevent any postoperative sequelæ, a wedge-shaped mass of fat should be removed, the two incisions converging into one on the fascial layer. This leaves no undetermined surface as a receptacle for secretions. It does not matter how long the incision is, provided there is no extensive undermining of the fat layer. I have found it of service to first carry the straight incision across the abdomen down to the fascia, this incision disclosing the thickness of the fat. By placing the left hand in the incision, and against the fat wall, I am able to guide more accurately the right hand in making the upper and lower flaps. After the ablation of the fat has been accomplished, the wound is covered with hot saline cloths, while the intra-abdominal work is being conducted. Fat removal is only to be recommended when the mass of fat is a distinct obstacle to the intra-abdominal work.

Personal Observations on Cancer

DR. J. GARLAND SHERRILL, Louisville: I have followed 208 patients and traced them to the present time. Of nineteen abdominal operations, eleven patients are living, five past the three-year limit, while others died in from twelve to eighteen months. Of twelve vaginal operations, four patients are living from three to twelve years after operations; eight had recurrence, dying within eighteen months. Trauma and irritation are important factors in the determination of the site of a malignant neoplasm. My cases show 8 per cent. in which trauma was noted, and 18 per cent. in which irritation was a factor. The results in my cases show very readily the improvement in ultimate results when radical surgical treatment is applied early. The serum treatment of cancer has been disappointing. I have used the ascitic fluid of one patient, which was injected into her own tissues, with no marked benefit, although the disease seemed not to progress during the time of its employment. Fulguration has not accomplished much, nor has the Röntgen ray done more than the knife or cautery can accomplish in a more thorough and certain way.

Sterilized Animal Membranes in Surgery

DR. ROBERT T. MORRIS, New York City: For some years I have been experimenting with the absorbable animal membranes in surgery, and have now and then found some point which seems to be new in this work. One case worthy of report was that of a young man, who, in riding down a steep hill on his bicycle, met an automobile coming up, turned aside suddenly into a bank, and the handle-bar of his bicycle tore five holes in the ileum. In that case there was so much contusion that I did not know where to resect. I washed out the blood and fecal matter, and decided temporarily to cover each opening with Cargile membrane until we might get past the period of shock, and then consider the possibility of excising bowel. The loops of perforated bowel were thrown about a small central drain and a large dressing applied, and the young man not only lived, but I did not do any excision of bowel. He was walking in thirty days without any fistula. That, I presume, was due to the use of the Cargile membrane and to nothing else.

Another point I have noticed with the Cargile membrane is that sometimes it does not undergo absorption rapidly. In an automobile accident, the patient having sustained a depressed fracture of the skull, I elevated the skull, separated the adhesions, and placed a large segment of Cargile membrane between the dura and the cranium. In this case there was occasion to do an operation some eight months subsequently for some remaining adhesions, and this membrane had not undergone any change whatsoever, so far as I could observe. It remained perfectly free and loose. It has prevented the formation of adhesions over the area I dressed and there were some supplemental adhesions about the periphery. This was an odd thing, and I do not know how to account for it. In many cases I have used the membrane for the prevention of recurrence of peritoneal adhesions as perhaps the favorite resource. In most cases now, in which I have occasion to separate extensive peritoneal adhesions, I depend on placing a sheet of this sterilized animal membrane over the area from which adhesions have been separated for the purpose of preventing a mechanical obstacle to the recurrence of adhesions.

Prevention of Shock

DR. J. H. CARSTENS, Detroit: By simplicity and tact in management before the operation, much shock is prevented. Have everything ready in the operating room, and start the anesthetic immediately. Have all necessary ligatures and instruments at hand, so that there need be no delay during the operation. Analyze the case thoroughly beforehand, so that you may know exactly what you are going to do, and how you are going to do it, and what complications may arise. Give 2 quarts of a saline enema, or a hypodermic injection as soon as the operation is fininshed. Keep the patient free from pain for twenty-four hours after the operation.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ILLINOIS: Collseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

LOUISIANA: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

NEW JERSEY: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

West Virginia July Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Charleston, July 10 to 12, 1911. The number of subjects examined in was 20; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 70 of whom 59 passed, including 2 osteopaths and 11 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Kentucky School of Medicine	(1897)	81
Louisville Medical College	(1904)	80
University of Louisville (1891) 80; (1911) 80, 81, 81, 83, 83, 83, 84, 84, 84, 85, 86.		
Baltimore Medical College (1907) 84; (1910) 85; (1911) 86, 89, 90		
College of Physicians and Surgeons, Baltimore (1910) 83; (1911) 81, 82, 83, 84, 86, 86, 88, 90, 90.		
Maryland Medical College (1903) 80; (1911) 80, 81, 81, 82, 84, 84, 84, 88.		
University of Maryland	(1911)	83
Ohio-Miami Medical College	(1911)	84
Cleveland-Pulte Medical College	(1911)	83
Eclectic Med. Coll., Cincinnati	(1910) 80; 1911) 80, 81, 82,	85
University of Pittsburg	(1910) 84; (1911) 85, 90, 92	
Jefferson Medical College	(1911) 82, 83, 89	
Chattanooga Medical College	(1903)	80
Medical College of Virginia	(1911) 82,	89
University College of Medicine, Richmond	(1911)	88
FAILED		
Louisville and Hospital Medical College	(1908)	75
University of Louisville	(1909) 78; (1910) 75; (1911)	77
Baltimore University	(1900)	56
College of Physicians and Surgeons, Baltimore	(1910)	79

Maryland Medical College	(1911)	74
Detroit Homeopathic College	(1911)	71
Lincoln Medical College	(1911)	71
Eclectic Medical College, Cincinnati	(1910)	72
University College of Medicine, Richmond	(1911)	83 *

* Fell below 65 in one or more branches.

The following questions were asked, not including those in osteopathy:

ANATOMY AND EMBRYOLOGY

1. Name the bony prominences of the elbow and the ligaments of the elbow joint. 2. Give articulations of the first cervical vertebra. 3. Where is the spleen and what are its uses? 4. Describe the two principal arteries of the forearm and tell how they form the palmar arches. 5. Of what does a vertebra consist? Name the processes and tell what their object is. 6. Describe the stomach. 7. Give brief description of facial nerve. 8. Name the muscles of the shoulder and arm. 9. Name the sutures and fontanelles in fetal head. 10. Give difference in fetal and adult heart.

BACTERIOLOGY AND HYGIENE

1. Classify bacteria and give example of each. 2. Name the bacteria frequently found in soil, water, milk and air. 3. What are toxins and antitoxins? Give example of latter. 4. What is meant by phagocytosis? 5. Describe sterilization and antisepsis. 6. How would you prepare specimen (diphtheria) to be sent a laboratory for examination? 7. Describe pure water; how would you render it wholesome when contaminated? 8. Describe the location of well or spring in relation to privy vault or stable. 9. Describe the hygiene of a tuberculous patient. 10. Give causes of air contamination of school room and proper ventilation of same.

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Define chemistry. 2. How many elements are there? How represented? 3. Give symbols of gold, silver, iron, lead, arsenic, potassium, mercury, calcium and sodium. 4. Name elementary substances used in their pure state in medicine. 5. Define qualitative and quantitative analysis, with example of each. 6. What are mineral waters? Name three. 7. Define and illustrate an acid, base and salt. 8. What is a poison? Illustrate. 9. What are evidences of death by drowning? 10. Evidences of rape?

PHYSIOLOGY AND HISTOLOGY

1. Mention briefly chemical and physical changes in the air and the blood caused by respiration. 2. Discuss sleep theories, naming three hypotheses. 3. Discuss the origin, function and fate of the red-blood corpuscles. 4. State in percentage ratio of weight of blood to that of body. What percentage of loss may be borne? 5. Define systolic, diastolic and mean arterial pressure. How determined? 6. Define enzymes and discuss briefly their action. 7. Define protein, carbohydrate and fat. Estimate nutritive value. 8. What is bile? Discuss physiologic importance. 9. Describe histology of a transverse section of the spinal cord at the cervical enlargement. 10. Discuss the histologic structure of the blood.

PRACTICE OF MEDICINE AND PEDIATRICS

1. To what class of diseases does chorea belong? Give treatment and name important complications. 2. Give the prognosis and treatment in a case of aortic regurgitation with general arteriosclerosis. 3. Give treatment of acute endocarditis. 4. Give causes, symptoms, physical diagnosis and treatment of acute croupous pneumonia. 5. Describe causes, tests, symptoms and treatment of typhoid fever. 6. Diagnosis and treatment of pleuritic effusion. 7. Diagnose, treat and give the cause of cholera infantum. 8. Write a prescription for modification of cow's milk for a child 3 months old. 9. What are the causes of convulsions in infants and children? 10. Give causes and treatment of summer diarrhea.

MATERIA MEDICA AND THERAPEUTICS

1. What is materia medica? What is pharmacy? 2. What is opium? Give its derivatives and dose of each. 3. Give composition of Dover's powder; Fowler's solution; Lugol's solution. 4. Give five principal emetics, dose of each and method of administering. 5. Name five intestinal antiseptics. 6. Give physiologic action of urotropin,† its dose and method of administration. 7. What is a specific in medicine? Give examples and make therapeutic application. 8. Define anesthesia; give examples of general and local anesthetics. 9. Define pyrexia and hyperpyrexia. How would you meet these conditions? 10. What are the therapeutic indications in intestinal hemorrhage in typhoid fever?

SURGERY

1. Give the methods of controlling hemorrhage. 2. Mention the uses of iodin in modern surgery. 3. Differentiate fracture of the surgical neck of humerus from fracture of anatomic neck of humerus. 4. Diagnose and treat carbuncle. 5. Give treatment of shock. 6. Give symptoms and treatment of cholelithiasis. 7. Diagnose and treat Colles' fracture. 8. Give symptoms and treatment of erysipelas. 9. Give symptoms and treatment of prostatic abscess. 10. Give symptoms and treatment of strangulated inguinal hernia.

† EDITOR'S NOTE: It is discouraging to note that those who examine and pass on the qualifications of physicians fail to appreciate their responsibilities. The graduates of the better schools know this product by its official name. It certainly will not raise the examiner in their estimation if he asks them about it under the name of one of the proprietary preparations of it. We suggest to this examiner that he consider the use of this additional query—not only for his candidates, but for himself: "What is the difference between urotropin, formin, uriform, aminoform, uritone and cystogen; and what is the difference between these preparations and the official hexamethylenamin?"

SPECIAL PRACTICE

1. Give the symptoms of infantile spastic paralysis. 2. Differentiate between epileptic and hysteroid seizures. 3. Name the causes and dangers of otorrhea. 4. In what acute disease is the ear most commonly involved, and, as a rule, what part of the general structure of the ear is first attacked? 5. Name the conjunctival diseases due to microorganisms. 6. Name four causes of iritis, and note the subjective and objective symptoms. 7. In nephritis, where does the effusion of serum first appear? In cirrhosis of the liver, where? In cardiac diseases, where? 8. State the diagnostic value of a blood examination in chlorosis; appendicitis; trichinosis. 9. Give cause, symptoms, pathology and treatment for laryngismus stridulus. 10. Give symptoms and treatment for nasal polypi.

OBSTETRICS AND GYNECOLOGY

1. What is the placenta? From what is it formed? What is its structure and what are its functions? 2. Name the bones, straits and divisions of the obstetric pelvis. 3. What are the diameters of the pelvic outlet? How is it bounded? 4. Describe the fontanelles and their diagnostic uses. 5. What are the signs of pregnancy—probable, doubtful and certain? 6. Interstitial nephritis in a pregnant woman. How would you treat? 7. Name the diseases of the endometrium and state their effects in pregnancy. 8. Define miscarriage, abortion and premature labor. 9. Describe Crede's method for the delivery of the placenta. 10. What care does the mother require after labor? Define the nurse's duties.

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC)

1. What is materia medica? How are drugs prepared homeopathically? 2. Give the principal indications for aconite, arsenicum and veratrum alb., naming diseases in which they would be found. 3. What are the characteristics of cactus grandiflorus, phytolacca dec. and baptisia tinct.? 4. Name four drugs that have practically only a local effect and give their action. 5. Name four drugs that affect the organism generally and describe their effects. 6. Differentiate between phos. and hepar sulph. in diseases of the chest. 7. What are the indications for uranium nit. in nephritis? For arsen.? For merc. cor.? 8. Name three or four drugs that would probably be indicated in diseases of the testicles. 9. Name four drugs that particularly affect the mucous membranes; four that affect serous membranes. 10. What remedies are called for in melancholia? Give their indications.

PRACTICE OF MEDICINE AND PEDIATRICS (HOMEOPATHIC)

1. Name four of the most frequent complications of rheumatic fever. Give treatment. 2. What is multiple neuritis? Give clinical history, prognosis and treatment. 3. What would be your treatment for septicemia following a scratch on the hand? 4. What are the symptoms of cerebrospinal fever? Give treatment. 5. How would you manage and treat a case of diabetes mellitus? 6. Name the different types of malarial fever. Give treatment. 7. What are the symptoms of poliomyelitis? Give treatment. 8. What is icterus and what does it signify? 9. What is "summer complaint"? How would you treat it? 10. What is hemophilia? How would you treat it?

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC)

1. Define materia medica, therapeutics Name five modes of administering drugs. 2. Give source, properties and therapy of ergot, hydrastis, strychnin. 3. Give physiologic action and specific symptomatology of apocynum, belladonna, digitalis, gelsemium. 4. What is the source of turpentine? Give its physiologic action, dose and therapy. 5. What is normal saline solution? How administered and in what conditions generally used? 6. Discuss therapeutic value of diaphoresis, diuresis, emesis and catharsis. 7. What drugs are available for local anesthesia? Give indications and technic of application. 8. Describe in detail therapeutic use of H_2O. 9. Name two gaseous disinfectants and give the technic of application. 10. What remedies would you use for the treatment of heat stroke, syncope, eclampsia and shock?

PRACTICE OF MEDICINE AND PEDIATRICS (ECLECTIC)

1. Name three clinical varieties of meningitis and give an etiologic factor in each. Diagnose and treat. 2. Diagnose and treat acute articular rheumatism. 3. Define Pott's disease. Give the etiology, diagnose and treat. 4. Give the symptomatology, diagnose and treat diabetes mellitus. 5. Give the etiology and diagnostic import of enlarged lymph-nodes. 6. Describe burns of the first, second and third degree and give treatment. 7. Diagnose and treat rachitis. 8. Give the etiology, diagnosis and treatment of ophthalmia neonatorum. 9. Differentiate measles and scariatina. Diphtheria and follicular tonsillitis. Give treatment. 10. What is inflammation? Name the bacteria usually associated with ordinary inflammation and suppurative processes.

Wisconsin July Reciprocity Report

Dr. John M. Beffel, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Madison, July 11-13, 1911, 16 candidates were licensed through reciprocity, including 1 osteopath. The following colleges were represented:

College	Year Grad.	Reciprocity with
Rush Medical College	(1909) (1910)	Illinois
College of Phys. and Surgs., Chicago	(1906) (1910)	Illinois
Northwestern University Medical School	(1907) (1910)	Illinois
Bennett Medical College	(1910)	Arkansas
Kentucky School of Medicine	(1901)	N. Dakota
Chicago College of Medicine and Surgery	(2, 1910)	Illinois
Baltimore Medical College	(1909)	Maryland
University of Michigan, Dept. of Med. and Surg.	(1903)	Michigan
Hahnemann Med. College and Hosp, Philadelphia	(1910)	Ohio
Western University, London, Ontario	(1899)	Nebraska
University of Naples, Italy	(1901)	New York

Book Notices

NOSTRUMS AND QUACKERY. Articles on the Nostrum Evil and Quackery from THE JOURNAL of the American Medical Association. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, $1. Pp. 509, with 220 illustrations. Chicago: American Medical Association Press.

In discussing the nostrum evil or quackery, the average physician is prone to assume that the layman is as well informed on the subject as he is himself. The physician does not realize that the public has not the same power of discrimination in these matters that he has. Medical schemes and assertions, which to the profession are transparent and evident frauds, may, to the man in the street, seem plausible and reputable. It is only when his patients come to him for information regarding the efficacy of certain widely advertised "patent medicines" or the possible value of some quack's exploited "treatment" that the physician realizes the deep and abiding ignorance of the public on all things medical. At such times, too, he is made to realize his own lack of specific information on such subjects. By every such physician the book "Nostrums and Quackery" will be appreciated; to the layman it will be of great value. No man unfamiliar with the detailed methods by which the quack captures his prey can read this book without being impressed with the hollowness of the fraud on which all irregular practice is based. The same may be said of the related subject of nostrum exploitation. By scores of examples, it is shown that "patent medicines," far from possessing some peculiar potency not to be found in the prescriptions of physicians, are either cheap imitations of such prescriptions or absolutely worthless—and sometimes dangerous—mixtures without any therapeutic virtue. This book differs from similar works in the thoroughness of detail with which each subject is treated. Step by step the methods of the quack are described in detail. Samples of form letters are given, testimonials are traced down and shown to be worthless or fraudulent, the remedies themselves analyzed—in fact, the book practically tears aside the veil of secrecy that has hitherto concealed the innermost workings of quackery. Every intelligent layman who reads this volume will have a better understanding of the limitations and possibilities of reputable medicine and he will be better able to conserve both his own health and the health of those dependent on him. The book is free from technical terms, is written in popular style and, with its two hundred odd illustrations, must appeal to all who have an interest in the subjects which go to form its title.

PATHOLOGY AND BACTERIOLOGY [OF THE EYE]. By E. Treacher Collins, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital, and M. Stephen Mayou, F.R.C.S., Surgeon and Pathologist to the Central London Ophthalmic Hospital. An International System of Ophthalmic Practice. Edited by Walter L. Pyle, A.M., M.D., Philadelphia, Member of the American Ophthalmological Society. Cloth. Price, $4 net. Pp. 558, with 237 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The senior writer of this admirable manual has undoubtedly taken for his text a sentence from his own "Erasmus Wilson Lectures on the Anatomy and Pathology of the Eye" the statement that "there is a law in biology to the effect that various stages of development through which the individual passes typify the history of the race"; since a perusal of the book furnishes evidence that the authors regard pathologic processes mainly in their evolutionary and embryologic aspect—a point of view which is not only original but eminently scientific.

The chapter on "Aberrations in Development" is an interesting one and deserves particular attention. It will, however, be possible to refer to only a few instances of the abnormalities mentioned in it. The authors mention the fact that in various animals the blood-supply of the retina varies considerably. In some mammals the retina is devoid of blood-vessels; in others they arise directly from the ciliary system in the sclerotic and reach the retina at the disk margin around which they curl; in still others the supply is mixed, some from the ciliary vessels and others from the central retinal system. This anatomic statement forms a preface to the consideration of the abnormal conditions found in man, the writer pointing out in this connection that many pathologic changes, including arrest of development, often simulate anatomic conditions that are normal in the lower animals.

We rather expected that definite mention would have been made of the dotted opacities found and described by Mittendorf as occurring in the posterior lens capsule and believed by him to be the remains of the (intra-uterine) attachment of the hyaloid artery. The occasional occurrence of an opacity of the posterior surface of the lens is mentioned, but this is evidently not the phenomenon spoken of by the American writer.

The anomaly of the papilla known as "pseudoneuritis" is described and the case of Holmes Spicer quoted. The pathology of the various extra- and intra-ocular neoplasms is extensively considered and their relation to evolutionary remains and embryologic tissues minutely described. Neuro-epithelioma of the retina (glioma) is judiciously considered. The "rosette-like" formations are regarded as rudimentary rods and cones. In this work an explanation is given not only of the ordinary morbid processes that affect the eye, but the tissue changes in many rare cases are duly delineated. We have particularly in mind the development of cysts in detached retina (p. 170), the pages and cuts illustrating the eye of Cyclops and some of the illustrations in the section on increased intra-ocular tension.

Reports in this text-book on the histologic and bacteriologic state of eyes lost after operations are of extreme value to the surgeon who is in the habit of doing much operative work. He will find the pages describing the post-mortem appearances in these cases of great interest, explaining as they do the failure of certain surgical interventions, and forewarning him in a vivid way of dangers to be avoided and technical errors to be corrected. The authors evidently attempt, and often succeed, in telling us just why "things go wrong" as well as how they might have gone right.

The investigations of Collins and Mayou do not permit them to answer the question as to whether "concussion" cataract is or is not sometimes produced without actual rupture of the lens capsules. Some authorities believe that this lesion may occur with an intact capsule, as the result of a mechanical tissue alteration whose interference with the nutrition of the lens fibers brings about the lenticular clouding.

Chapter V ably deals with the subject of inflammation and its modifications as seen in the ocular structures. The chapter on "Parasitic Diseases of the Eye" very properly includes the bacteriology of that organ and here, we need not say, there is little left to be desired. The subject is fully covered with a precise brevity that is in striking contrast to the learned verbosity of some other foreign monographs we might mention. In an appendix are given various practical methods for making post-mortem examinations of the eye, such as cutting, staining and mounting microscopic specimens, and the book ends with a concise description of the Wassermann reaction, the preparation of vaccines and the agglutination test.

A PRACTICAL MEDICAL DICTIONARY of Words Used in Medicine, with Their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanic, Electric, Life Insurance and Other Special Terms; Anatomic Tables of the Titles in General Use and Those Sanctioned by the Basel Anatomic Convention; Pharmaceutical Preparations, Official in the U. S. and British Pharmacopeias and Contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Springs of America and Europe, and Comprehensive Lists and Synonyms. By T. L. Stedman, A.M., M.D., Editor of "Twentieth Century Practice of Medicine" and the *Medical Record*. Leather. Price, $5. Pp. 1,000. New York: William Wood & Co., 1911.

This book presents a number of novel features. Attempt is made to use the etymologically correct terms, for instance, "oothecectomy" instead of "oophorectomy," "scolecoiditis" for "appendicitis," etc. This is in line with similar attempts made elsewhere. Derivations are given from the Anglo-Saxon as well as from Latin and Greek. Special attention is also paid to synonyms and to listing under the name of a part the scientific terms for various conditions associated with that part. Thus under "abdomen" are found the various terms for abdominal dropsy, examination, incision, pain, tumor, etc. Under "pain" are listed pains which may be felt in any part of the body. Under "uterus" are listed the various anomalies of development as well as the pathologic conditions to be met with in this organ. This is extremely useful to

one who is at a loss for the proper word to be used as well as to secure a correct definition. The usual tables of arteries, muscles, nerves, etc., found in a dictionary, are contained in this volume. Eponymic terms are inserted as main titles and are defined under the proper name; a short biographical sketch is added in each case. The reduction in the number of hyphenated words will commend itself to many. The Basel nomenclature is followed throughout. All the preparations of the United States and the British Pharmacopeias and the National Formulary are included. Mineral springs are listed as well as their location, character of the water and indications for its use. Besides the regular medical terms, the dictionary includes dental, chemical, veterinary, botanical insurance, homeopathic and eclectic terms. Tables of elements, their symbols and atomic weights, thermometer scales, weights and measures, etc., are placed in the appendix. Special attention is paid to the etymology of words, and in the spelling of medical terms preference is given to the simpler forms. In words derived from the Greek the kappa is represented by the English "c." While this looks all right so far as "catalepsy" is concerned, if has a rather strange look in the word "caryocinesia." Daily use of the book has brought to light many good features, but every now and then a word or term is missed in it for which some other dictionary is consulted successfully. This, of course, is to be expected, as an absolutely complete dictionary, not encyclopedic in character, is out of the question. What one author will regard as an important word another will not consider as worthy of inclusion. On the whole, however, the author seems to have been judicious in his exclusions and the book therefore takes a high position as a reference "word-book" in medicine.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery. By Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Volume VIII. Cloth. Price, $7. Pp. 1146, with 406 illustrations. New York: William Wood & Co., 1911.

The eighth and last volume of this work will be welcomed by all who have been fortunate enough to have subscribed to it. In this volume are considered intrathoracic surgery, surgery of the spleen, surgical diseases and wounds of the kidneys and ureters, surgery of the pancreas, surgery of the liver, gall-bladder and biliary passages, surgical diseases, wounds and malformations of the urinary bladder and the prostate and surgery of the ovaries and Fallopian tube and the uterus, including extra-uterine pregnancy, Cesarean section, etc. The chapter on carcinoma of the uterus is particularly worthy of notice.

The work has been favorably commented on repeatedly in these columns as the various volumes appeared. This last volume is particularly noteworthy in that several subjects of interest to the surgeon are considered which heretofore have not been found incorporated in works of this kind. Of these we may mention an excellent chapter on "The Law in Its Relations to the Practice of Surgery" and one on "Administrative Surgical Work" which has subheads on hospitals and hospital management, military surgery, naval surgery and administrative railroad surgery. Closing the volume and work is an extensive index to all the volumes. The work as a whole reflects great credit on the individual authors, who usually receive but little of any recognition in composite works of this character. At the same time the editors are to be congratulated on having brought to a successful termination such an excellent exposition of the practice of modern surgery.

THIRD ANNUAL REPORT OF THE MICHIGAN ASSOCIATION FOR THE PREVENTION AND RELIEF OF TUBERCULOSIS. For Ten Months, March 1-Dec. 31, 1910. Containing Statement of Work Accomplished, Report of Convention at Ann Arbor, Report of Local Associations, State Needs, Work of Allied Societies, Report of Secretary and Treasurer. A Brief of the Ten Months' Work. Aldred S. Warthin, Secretary, Ann Arbor, Mich. Paper. Pp. 189.

This organization has adopted as its war cry: "No Tuberculosis in Michigan in 1920." This report reviews the work for 1910, and contains much interesting material and many illustrations. The reports on the publicity and educational methods used are particularly interesting.

Medicolegal

What Constitutes Vaccination and Form of Certificate Thereof that May be Required

(Lee vs. Marsh (Pa.), 79 Atl. R. 564)

The Supreme Court of Pennsylvania holds that the vaccination of school children required by the statute of that state is by inoculation, and that a form of certificate may be demanded showing that the certified vaccination of a child was by that method. The certificate of vaccination offered in this case stated that the physician signing it, after personal examination of the child named therein, certified that she had been successfully vaccinated. The form insisted on, under instructions from the department of health, was to the effect that on a certain date the physician vaccinated the child named, and on another date stated found a resulting sore, which in his opinion meant a successful vaccination. The vaccination in this case was by the giving of vaccine virus (triturated virus) through the alimentary canal, through the mouth, in a powder form.

The Supreme Court renders its decision on the opinion of the court below, which stated that the whole case really turned on what is the meaning of the term "vaccination," as used in the act of June 18, 1895, which prohibits the attendance of a child at school without a certificate of successful vaccination, or of its having had the small-pox.

The ordinary and usual meaning of "vaccination," and the sense in which it must be supposed to have been used by the legislature, is inoculation with the virus of cow-pox for the purpose of communicating that disease as a prophylactic against small-pox. It indicates an operation, and not a result. If a person should take cow-pox by milking cows, or otherwise, or from other contact with the disease, he could not be said to have been vaccinated. The operation is comparatively old, having been in use for over 100 years, and during that time has always consisted of inoculating the body—that is, grafting on it the disease by inserting the virus under the skin—and the test of its success has always been considered to be the appearance of the symptoms of the disease, including those which manifest themselves on the skin.

Still it appeared in this case that for some years past another method of guarding against small-pox has been in use, more or less extensively, which consists in attenuating to a high degree the virus of small-pox, or of cow-pox, the attenuation of the virus of small-pox being called variolinum, and that of cow-pox vacciniinium, and administering one or the other of these substances by the mouth, and it was claimed that in this way there are produced in the body practically the same symptoms as are produced by vaccination, except the exterior and local inflammation, and that either of these methods has the same preventive virtue as ordinary vaccination. From what is known of the use of toxins of other diseases, this would seem to be possibly true; but whatever it may be, and whatever the result may be, it is not vaccination as the term is used in the act.

The term "vaccination," however, appears to be used by some physicians, at least, as a general term for the introduction into the body, by any method, of any kind of virus as a preventive of disease, and it is plain that in this case the physician who certified to the successful vaccination used the term in this general sense, and not in the sense of the act. In order, therefore, to guard against such ambiguous use of the term by which the act would be evaded, the health department, under the terms of the act of April 27, 1905, prescribed a form of certificate which would prevent such ambiguity, and the requiring of that form was really what is complained of in this case. It was strenuously argued that the authority given by the act of 1905 to the health department to fix forms of certificates is a delegation of legislative power, and if it were claimed to authorize that board to require safeguards against disease which the act does not substantially require, it would be open to that objection. But all the court understands the act of 1905 authorizes, and all that the department has done in this case, is to regulate the form of the certificate so as to prevent ambiguity, and to require the

certifying physician to use words in the same sense with which they are used in the act.

For these reasons the court is of the opinion that the certificate required by the board of health was lawfully required by it, and that its use is obligatory.

May Testify in Will Cases as to Mental Condition

(*In re Gray's Estate* (Neb.), 130 N. W. R. 746.)

The Supreme Court of Nebraska holds that, in a contest over the probate of a will between the person therein named as an executor or a legatee and the heirs at law of the decedent, section 333 of the Code of Civil Procedure, forbidding the disclosure of privileged communications, does not prevent a physician from testifying on behalf of either side of the controversy to the mental condition of the testatrix, though the information which enables him to do so was acquired solely in his professional capacity while attending her during her last illness. The court says that the courts of the country are divided on this question, but this court has held that the statutory right of waiver extends to the personal representative of a deceased person. Then, may one class of representatives in a contest over the probate of a will waive the privilege to the exclusion of another class, where the respective rights of the disputants depend on the mental condition of a deceased person? Does the statute permit heirs at law to require a disclosure on part of the physician, if his patient was insane, and suppress the truth, if mentally competent? No such intention can be found in the statute or in the reasons for its enactment. If heirs at law to protect the property of their ancestor from an insane act and to obtain their own rights under the statute of distributions may require a physician to testify to the condition of his patient's mind, there is no reason why a legatee or an executor may not also call on him for the purpose of protecting the will and a legacy under it. Having held that the right to waive the statutory privilege extends to the personal representative of a deceased person, consistency and justice require a construction which permits an executor or a legatee to compel a physician to testify to the mental condition of his patient, when that question is involved in a contest with the heirs over the probate of the patient's will. The courts, however, have authority to protect the memory of deceased persons from objectionable disclosures.

County Societies Can Pass Certain By-Laws and Hold Members for Trial on Charges—Not Subject to Injunction

(*Ewald vs. Medical Society of New York County*, 128 N. Y., S. 886)

The First Appellate Division of the Supreme Court of New York holds that a member of a medical society is not entitled to an injunction to prevent his being tried on charges preferred against him where his resignation has not been accepted and the by-laws of the society provide that all resignations shall be in writing and shall be sent to the secretary and referred to the comitia minora at its first meeting after their receipt, and, if accepted, the member thereby severs all connection with the society, but no resignation shall be accepted from a member under charges.

The court says that, if he is still a member of the society, his suit for an injunction is premature, while it also may well be doubted whether equity will entertain jurisdiction at the suit of a non-member to restrain the proceedings of a membership corporation like the defendant society. But he may ignore the proceeding, and, if he is libelled, sue for damages.

Under the laws applicable thereto, the society not only had the power to expel for unprofessional conduct not directly involving the relations of the member as such to the society, but it also had the power to pass the by-law that no member should be permitted to resign under charges. Indeed, its relation to the public and to the profession is such that the mere severing of membership of one guilty of an offense meriting discipline would not serve its corporate purposes. County medical societies are much more than mere private corporations or social clubs. The scope of the original act of incorporation and of the subsequent acts relating to them shows that they were intended to discharge important duties to the public.

It seems plain, therefore, that a member on his admission to the society assumes an obligation, not only to conform to the rules and regulations of the society respecting his immediate relations to it, but as well to observe its standards of professional ethics, and that a breach of that obligation in any respect involves a violation of duty to the society. Certainly any discreditable act of a member in his professional relations tends to discredit the society. The plaintiff agreed on becoming a member to submit to the discipline of the society for any act unfavorably affecting "the character, dignity or interest of the medical profession, or of the society." The by-laws, rules and regulations of the society would have no sanction if its discipline could be evaded by a resignation.

It is probable that the defendant could not try a member while under suspension. But it could wait until the period of suspension expired, or it could revoke the suspension. Restoration is not the same as original admission to membership. After restoration, he probably could not again be tried on the charges on which he was suspended. But that would not affect charges entirely different.

A Communication Not Privileged

(*Miller vs. Miller* (Ind. App.), 94 N. E. R. 253)

The Appellate Court of Indiana, Division No. 1, holds that in this case, wherein a daughter sought to recover from the estate of her deceased mother for services rendered her mother before her death, that there was no error in permitting a witness who was a physician to testify that while at the home of the mother, on an occasion when professionally calling on her, she said to him, in the presence of the claimant, "that Ellen should be paid and well paid for the work she was doing there caring for her." The court says that the mother was at that time able to be up and around, and this conversation occurred in the sitting-room of her home. The objection urged against the admission of this evidence was that the communication was privileged, being a communication from a patient to her physician. But it did not appear that the statement to the witness was in any manner connected with the making of any examination of the patient, or in connection with any conversation with reference to her ailments or disease with which the patient was suffering or being treated, or in any manner pertaining to such physician's employment, or while any one was advising the claimant as to the care and attention the mother should receive. All persons are competent witnesses in a civil proceeding except as otherwise provided by statute. The Indiana statute provides that: "Physicians, as to matter communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases," are not competent witnesses. Such matters are regarded as confidential communications between patient and physician, and are privileged without the consent of the patient. The fact about which the witness testified here was not a matter reasonably within the professional business of the physician, or about which he would be expected to give advice, or that it would likely be communicated by a patient to a physician as such, and was not privileged.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Philippine Journal of Science, Manila

June, VI, No. 3, pp. 165-258

1 Davainea Madagascariensis (Davaine) in Philippine Islands. P. E. Garrison, U. S. N.
2 Influence of Rice Diet and Inanition on Production of Multiple Neuritis of Fowls and Its Bearing on Etiology of Beriberi. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. A.
3 Intestinal Parasites in Cavite Province. E. R. Stitt, U. S. N.
4 *Dysentery Bacillus with Bacteriologic Study of Epidemic of Bacillary Dysentery in Philippines. E. R. Whitmore, U. S. A.
5 Practical Experiences with Beriberi and Unpolished Rice in Philippines. V. G. Heiser, U. S. P. H. and M.-H. S.
6 Perineal Litholapaxy (Keith's Operation). A. Hooton, Rajkot, India.
7 *Clinical Study of Hookworm Infection in Philippines. I. Gomez, Manila.
8 *Etiology of Beriberi. W. P. Chamberlain and E. B. Vedder, U. S. A.

4. **Dysentery Bacillus.**—During an epidemic of bacillary dysentery in the Philippines, occurring in the summer of 1909, Whitmore was able to isolate dysentery and dysentery-like bacilli from the stools of a number of patients. He isolated a bacillus of the Shiga-Kruse type from twelve out of forty cases of severe, acute dysentery in natives of two towns of Batangas Province where there was an epidemic of acute dysentery with a high mortality. No other strain of the dysentery bacillus was found by him in that locality. He was able four times to isolate a bacillus of the Flexner-Strong type, and one of the Shiga-Kruse type once from sporadic cases of acute dysentery around Manila. Beside this, he obtained a large number of dysentery-like bacilli. These organisms were determined by the cultural characteristics, including their reactions in sugar media, their pathogenicity for lower animals, and their agglutination reactions with sera of animals immunized to known strains of the various types of the dysentery bacillus. The bacillus Y and the Strong type, with which Leutz worked, were not found. Whitmore says that great care is necessary in describing types of the dysentery bacillus from their reactions in sugar media alone, as the amount of sugar present and the length of time the organism has been on artificial media often affect the reaction.

7. **Uncinariasis in Philippines.**—This investigation was undertaken by Gomez mainly to determine the effect of the hookworm on Filipinos, and to determine whether there is any immunity enjoyed by the race comparable to that of the Negroes in Porto Rico, in the southern United States and in Africa. A series of twenty-six cases was studied clinically, and subjected to a careful examination of the blood and urine. In a few cases the hookworms were collected and counted. It has been Gomez' procedure to collect the stools in every case. Ten cases without hookworms but with other intestinal parasites were selected for study as controls.

Five of the twenty-six patients complained of a certain amount of pain in the stomach. The other symptoms, such as emaciation, a feeling of dizziness, pain in the joints, difficulty in urination, a sensation of oppression on the chest, tympanitis, neuralgic intercostal pains, or debility, can be attributed to other diseases such as malaria, tuberculosis, dengue fever, cystitis and nephritis. The vague pains in the stomach suggest the presence of hookworms, either alone or associated with other intestinal parasites, as their removal accompanying hookworm infection has been frequently observed by Rissler and Gomez. One particular instance was that of an assistant who complained of poor appetite and vague abdominal pains, and who was promptly relieved on the expulsion of hookworms. As compared with the control cases, eosinophilia is generally present in the patients harboring hookworms. Five out of ten, or 50 per cent., of the control cases gave an eosinophil count above 4 per cent. In patients infected with hookworm, twenty out of twenty-six, or 76 per cent., had eosinophils above 4 per cent. Only three of the controls had over 5 per cent., whereas in the hookworm series this figure was reached by twenty out of twenty-six of the cases. No control shows 13 per cent. or above, whereas nine (or 34 per cent.) of the patients harboring hookworms gave an eosinophil count of 13 per cent. or above. The lowest count in the control cases was 0.3 per cent., and the highest 12.80, whereas in the others the lowest was 0.3 per cent. and the highest 21.9. It was noted in the control series that individuals with *trichuris* or *ascaris*, or both together, hardly show any deviation from normal, those having high eosinophil counts harbored amebas or *tenia*. The percentage of hemoglobin in the control series varied from 80 to 95. In these patients infected with hookworm, the percentage was from 75 to 95.

The count of the red and white cells did not show any marked difference between the two series; the lowest for red cells in the hookworm cases was 4,000,000 per cubic centimeter, whereas in the control cases it was 4,500,000. In two instances, albumin was found in the urine but this occurrence can be attributed to nephritis which was independent of the hookworm infection. The number of hookworms recovered varied from one to twenty, this small number corresponding to the paucity of eggs found in the microscopic preparations. Gomez concludes that hookworm infection among the Filipinos corresponds to the light type of Stiles; that is, patients have the ova of hookworms in their stools, but no symptoms. The absence of all clinical manifestations or their insignificant characters among Filipinos infected with hookworms, Gomez says, cannot be attributed to a racial immunity, as the number of the infecting hookworm organisms in each instance is small.

8. **Etiology of Beriberi.**—A series of carefully conducted experiments on fowls has convinced Chamberlain and Vedder that polyneuritis gallinarum is not prevented by adding to a diet of polished rice any of the following substances: potassium phosphate, potassium citrate, potassium carbonate, potassium chlorid, magnesium phosphate, phosphoric acid, or phosphoric acid combined with potassium chlorid. The neuritis-preventing substance in rice polishings is soluble in cold water and in cold alcohol. Polyneuritis gallinarum may be prevented by means of an extract of rice polishings containing only those substances soluble in cold water and cold alcohol. Multiple neuritis in fowls fed on polished rice probably is not due to lack of phosphorus compounds in the grain, as claimed by Schaumann, since out of each 1,000 parts of phosphorus contained in the rice polishings at least 999 are not concerned in preventing neuritis. The neuritis-preventing substance contained in rice polishings is capable of dialysis through a parchment membrane. This excludes all colloids from consideration.

Journal of Iowa State Medical Society, Clinton

September 15

9 Typhoid Bacilli Carriers. H. Albert, Iowa City, Ia.
10 Proper Registration of Vital Statistics. G. H. Sumner, Des Moines, Ia.
11 Ethics of Practice. C. A. Boice, Washington, Ia.
12 Scientific Spirit in County Society. E. B. Brown, Beloit, Wis.
13 Medicine in Iowa from Its Early Settlement to 1876. D. S. Fairchild, Clinton, Ia.
14 Infectious Arthritis with Special Reference to Knee-Joint. W. H. Rendleman, Davenport, Ia.

Chicago Medical Recorder

September, XXXIII, No. 9, pp. 461-523

15 *Treatment of Puerperal Sepsis by Intravenous Injection of Mercuric Bichlorid. H. M. Stowe, Chicago.
16 Asiatic Cholera and Its Treatment. W. F. Waugh, Chicago.

15. **Treatment of Puerperal Sepsis.**—Stowe reports eleven cases of undoubted septicemia treated during the past four years by the intravenous injection of mercuric bichlorid in association with other treatment, with death following in five and recovery in six. In addition to these eleven cases of septicemia the mercury has been injected in three cases of pyemia. One woman died after seventy days. Of the other two patients one was treated with 2 grains of mercury after the ninth chill, the other with 1 2/5 grains after seven chills. Four additional chills followed the treatment, making eleven in all. In the first case, the blood was sterile after five examinations; in the second case streptococci were demonstrated in the blood-current. Stowe has given 185 injections of 1/5 grain of mercuric bichlorid in septic patients and has never seen any bad or toxic results therefrom. He says that intravenous medication offers the quickest, most accurate and most dependable method of drug administration. The reputed dangers of embolism are greatly over-estimated. Mercuric bichlorid is not the ideal drug to combat septicemia, but it has the advantages of being easily associated with other forms of treatment, is harmless in action and is worthy of trial in serious cases. Stowe warns to keep the teeth clean and to omit salines during the course of treatment. He emphasizes that experiments with other chemicals in the conflict against the streptococcus are greatly needed. By diligent investigation someone will find a substance which will overcome the streptococcus and its toxins and also prove harmless to the maternal organism.

Stowe says that generally speaking, local forms of sepsis are treated on the principle of watchful expectancy because the maternal powers are amply able to overcome the deleterious action of the bacteria and their toxins. No intra-uterine or vaginal douches are given, no curettement permitted and

no internal examinations made; in fact, local therapy consisting of vaginal or uterine manipulations is not only useless, but are positively harmful in the great majority of cases. Many a woman owes a general extension of her sepsis to malicious local therapy. It is only necessary to assist the maternal powers in their conflict against the streptococcus, the most common as well as the most serious pathogenic organism. This assistance is afforded by placing the patient in Fowler's position to facilitate drainage, ergot and hydrastis to prevent extrauterine migration of the bacteria and to promote an otherwise retarded uterine involution, and continuous ice-bags on the abdomen for the relief of pelvic pain. In cases of parametritis, when exudation is pronounced, the patient is kept in bed for several days after the pain, temperature and other signs of the acute process have subsided. If fever or pain return after the woman leaves her bed, she must return at once; otherwise, the exudate may suppurate and form a pelvic abscess. These abscesses should not be opened until they are easily accessible by way of Douglas' cul-de-sac, never through the abdomen, and when the peritoneal cavity is sufficiently protected by adhesions from the suppurating focus. A premature surgical procedure is always associated with the danger of general peritoneal involvement.

Journal of Missouri State Medical Association, St. Louis

September, VIII, No. 3, pp. 97-134

17 Obstruction of Male Urethra: Report of Cases. H. J. Scherck, St. Louis.
18 Civil Malpractice. E. J. White, Aurora, Mo.
19 Pathology of Exophthalmic Goiter. R. L. Thompson, St. Louis, Mo.
20 Obstructions of Upper Urinary Tract. J. Block, Kansas City, Mo.
21 Diagnosis of Hyperthyroidism. W. W. Graves, St. Louis, Mo.
22 *Surgical Treatment of Exophthalmic Goiter. W. Bartlett, St. Louis.

22. Surgical Treatment of Exophthalmic Goiter.—Of Bartlett's operations for this disease, forty-five were partial thyroidectomies. Two of these patients died (4.44 per cent.); thirty-two (71 per cent.) are in splendid condition at periods varying from a few weeks to seven years after the operation. Bartlett does not advise thyroidectomy on advanced patients unless a preliminary hospital treatment, consisting of rest in bed, atropin and the application of ice to heart and throat alters the condition to the point that he considers them fair surgical risks. If they are properly chosen, an anesthetic is dispensed with, no blood is lost and no shock produced; surely very little is added to the inherent danger of the disease and in this way a vast amount is accomplished. Bartlett operates under local anesthesia.

Old Dominion Journal of Medicine and Surgery, Richmond

September, XIII, No. 3, pp. 151-207

23 Pelvic Infections and Their Relation to Inflammatory Diseases of Pelvic Structures. J. W. Long, Greensboro, N. C.
24 *Spurious Pregnancy. J. S. Clifford, Charlotte, N. C.
25 Pylorospasm, Its Chief Causes. E. R. Hart, Suffolk, Va.
26 Chronic Gastritis. J. R. Verbrycke, Washington, D. C.
27 Gonorrhea in Female. W. C. Powell, Petersburg, Va.

24. Spurious Pregnancy.—In Clifford's case the woman's menstruation ceased Aug. 10, 1908. She believed that she had conceived and had no disagreeable symptoms. The abdomen enlarged progressively, and the patient stated that she felt movements about Christmas. Early in February she complained of the activity of these movements, and for the first time grew nervous and worried over the tediousness of her state. Clifford saw her Feb. 4, 1909, and with the exception of a marked anemia, found the patient in good condition. A symmetrical tumor at the level of the umbilicus was palpated, but the fundus of the uterus was not determined, nor were the fetal heart sounds and other positive signs of pregnancy present. On February 23 permission to administer an anesthetic was given, and as soon as consciousness was lost the tumor disappeared and a slightly enlarged uterus, with a soft patulous cervix was palpated. With the withdrawal of the anesthetic the swelling returned, and the symptoms enumerated above reappeared. The patient insisted that she still felt fetal movements that annoyed her greatly, and her nervousness became so marked that it was decided to perform a curettement. This was done March 10, 1909, and only some catarrhal endometrium was found in the scrapings. Satisfied now that the uterus was empty, the patient did not complain and the abdomen remained normal, the anemia present readily responded to treatment and the nervousness cleared up gradually. Menstruation returned June, 1909, and continued regular until November, 1909. Jan. 9, 1910, a two-months' pregnancy was terminated unavoidably caused by a fall on an icy side-walk. Placental debris was found in the discharge at this time; menstruation did not again appear, and on Nov. 22, 1910, Clifford delivered this woman of a normal female baby.

Western Medical Review, Omaha

September

28 Heredity. A. E. Mack, Omaha, Neb.
29 Two Cases of Subparietal Injuries of Kidneys. B. B. Davis, Omaha, Neb.
30 Etiologic Relation of Food to Degenerative Diseases. W. F. Milroy, Omaha.
31 Recent Advances in Syphilology. A. Schalek, Omaha, Neb.
32 Tonsil Resection by General Surgeon. C. E. Slagle, Alliance, Neb.

Military Surgeon, Washington

October, XXIX, No. 4, pp. 361-479

33 Typhoid in National Guard, Investigation of an Epidemic. A. McGlannan and W. P. Morrill, Baltimore.
34 Malformations and Monstrosities in Army Medical Museum. D. S. Lamb, Washington, D. C.
35 *Epidemic of Measles at Columbus Barracks, Ohio. Manner of Transmission of the Disease. A. C. Christie, U. S. A.
36 Report of Camp Wilhelm, Tayabas, P. I. W. A. Powell, U. S. A.
37 Case of Alkaptonuria and Ochronosis. P. M. Ashburn, U. S. A.

35. Epidemic of Measles.—Since the 24th of last December there have been 183 cases of measles at Columbus Barracks. During the first month and a half the disease ran a very mild course, with few complications and those not serious. Up to February 16 there were seventy-six cases of measles, two of them being complicated with bronchopneumonia, three with otitis media, and one with plastic pleurisy; none of these cases was severe and all of them made good recoveries. About the middle of February the disease suddenly assumed a serious aspect and many of the cases had severe complications. There seems to be no way to explain this sudden change in the character of the disease. The patients were isolated in roomy wards, well ventilated but kept at an even temperature, and with sufficient moisture present. That there was an increase in the virulence of the infection is indicated by the fact that during this latter part of the epidemic many cases were seen to be serious from the start. Even during the catarrhal stage there was great prostration, very serious bronchitis, and early tendency to lung involvement. The first death occurred on Feb. 16, and since that time there have occurred 107 cases of the disease with a total of sixteen deaths. The last death occurred on April 1, and since that time there have been only a few cases and none of them serious. The death-rate for the entire epidemic is 8.2 per cent.

The following complications occurred during this epidemic: bronchopneumonia, 23; pleurisy with effusion, 11; otitis media, 13; mastoiditis, 3; meningitis, 1; pericarditis with effusion, 3; abscess of lungs, 2; 1 with appendicitis as an intercurrent disease, was operated on and made a good recovery. At autopsy one patient was found to have a large tuberculous abscess in the apex of each lung, and two had healed tuberculous nodules.

Death was caused in four cases by bronchopneumonia alone; in one case by meningitis; in four cases by bronchopneumonia and pleurisy with effusion; in one case by empyema, which proved fatal in spite of rib resection and thorough drainage; two cases with bronchopneumonia and multiple abscesses in the lungs; one case with bronchopneumonia and tuberculous abscesses; and two cases with bronchopneumonia, pleurisy with effusion, and pericarditis with effusion.

Otitis media was a complication in 7 1 per cent. of the cases. In those cases in which the discharge was at all persistent, an autogenous vaccine was made and proved a very efficient aid to the treatment. Mastoid disease was a complication in three cases; in all three a thorough mastoid operation was done; two of the patients recovered and the other died with meningitis.

Journal of Oklahoma State Medical Association, Muskogee

September

38 Cause and Prevention of Cancer. L. F. Watson, Oklahoma City, Okla.
39 Joint Manifestations of Hemophilia. C. S. Neer, Vinita, Okla.
40 Look Ahead. A. K. West, Oklahoma City.
41 Varicella. J. F. Duckworth.
42 Early Diagnosis of Tuberculosis. P. H. Anderson, Anadarko, Okla.
43 Indigestion from Surgical Point of View. L. Long, M'Alester, Okla.

Surgery, Gynecology and Obstetrics, Chicago

September, XIII, No. 3, pp. 245-362

44 Esophagoscopy and Gastroscopy. H. H. Janeway and N. W. Green, New York.
45 Merits of Suprapubic Prostatectomy. J. B. Squier, New York.
46 Cure of Prostatic Obstruction. H. H. Young, Baltimore.
47 Perineo-Urethral Prostatectomy. W. T. Belfield, Chicago.
48 Results Following Perineal Prostatectomy. P. Syms, New York.
49 Series of Unusual Cases with Pathologic Conditions Outside of Bladder, Probably Appendical Abscesses, Causing Marked Vesical Symptoms. L. E. Schmidt, Chicago.
50 Diverticula of Urinary Bladder, Special Reference to Röentgen Ray Diagnosis. J. M. Garratt, Buffalo, N. Y.
51 Urinary Bladder Disturbances Due to Inflammatory Changes in Prostate and Seminal Vesicles. I. S. Koll, Chicago.
52 Topography of Ureter as Determined by Shadowgraph Catheter. L. E. Schmidt and H. L. Kretschmer, Chicago.
53 *Renal Decapsulation in Eclampsia. H. Ehrenfest, St. Louis, Mo.
54 *Consideration of Renal Anomalies. W. A. N. Dorland, Chicago.
55 *Sigmoid in Its Relation to Pelvic Disease. C. W. Barrett, Chicago.
56 Operative Treatment of Carcinoma at Fundus of Bladder. F. R. Hagner, Washington, D. C.
57 Case of Cystitis, Multiple Ulcers, Cured by Excision of Ulcers. F. R. Hagner, Washington, D. C.
58 Case of Urinary Suppression Treated by Catheterization of Kidney Pelvis. F. C. Walsh, San Antonio, Texas.

53. **Renal Decapsulation in Eclampsia.**—Ehrenfest draws from his experiments the following conclusions: 1. The immediate effect of decapsulation is a temporary suppression of secretory function in the operated kidney, and a distinct reflectory retardation of diuresis also in the other kidney, at time probably amounting to a complete anuria. This reflectory effect is also exerted on a kidney decapsulated forty-eight hours previously, but possibly to a smaller degree. 2. From twenty-four to forty-eight hours after the operation a decapsulated kidney shows approximately the same secretory activity as the non-decapsulated kidney of the same animal. 3. Between twenty-four and forty-eight hours after decapsulation the diuretic effect of an intravenous saline transfusion or of an artificial acute rise of blood-pressure is identical in the decapsulated and non-decapsulated kidney of the same animal. 4. In an apparently healthy dog a kidney, decapsulated for more than twenty-four hours, does not show any noticeable difference from the other kidney in regard to its secretory function under normal or artificial conditions.

54. **Renal Anomalies.**—The two cases reported by Dorland are: 1. Mural kidney, situated in a pocket of peritoneum on the anterior abdominal wall, left lower quadrant. The organ was one-third of the normal size, having a small ureter which perforated the bladder-wall in the usual situation, so that the normal shape of the vesical trigone was not altered. The ectopic kidney was normal in shape, but showed slight lobulations, the latter not being nearly so marked, however, as they frequently are in normally situated and fully developed kidneys. A careful dissection proved that the vascular supply of the ectopic organ was derived from a branch of the internal iliac artery, with a corresponding vein emptying into the internal iliac vein. The adrenal was not in evidence. The ureter, which in common with the vessels perforated the kidney at the hilum, which was directed inward and downward toward the median line, was about half the usual size. Section of the ectopic organ discovered typical renal tissue, although the pyramids were not as sharply defined as in a normal kidney. There was no kidney nor adrenal body in the normal situation on the left side, nor were ureter or renal vessel to be found on that side, nor vestiges that might indicate an attempt at renal formation. The right kidney, adrenal body, and ureter were normal in size and appearance and were normally vascularized. The second case was one of horseshoe kidney with fusion of the upper extremities with concavity directed anteriorly.

55. **The Sigmoid and Pelvic Disease.**—Barrett emphasizes that the intimate relation of the genital tract to the terminal reservoirs of the urinary and alimentary tracts permit of easy communication of disturbances and pathologic conditions. The sigmoid through its ready adhesions may, like the omentum, serve to wall in a genital infection and save the patient, after which it may, through perforation, serve as a means of escape for this infection and the resulting pus, or, by reason of adhesions, it may introduce new elements of danger through colon bacilli infection and bowel obstruction. The symptoms of constipation, diarrhea, passage of mucus or blood, the presence of a sausage-like mass in the left iliac fossa, etc., should, he says, lead us more frequently to include the pathologic conditions of the sigmoid in our pelvic diagnosis, especially when there seem to be adhesions on the left side. The associated sigmoidal conditions are undoubtedly primary, in many instances, as they are found in men although adhesions here may be due to infections of the vas but are also very frequently secondary to the disease of the tubes, ovaries and uterus, as they are frequently observed after definite infections of this tract.

Ohio State Medical Journal, Columbus

September, VII, No. 9, pp. 421-468

59 Proctology. S. T. Earle, Baltimore, Md.
60 *Surgical Aspects of Painful Indigestion. G. W. Crile, Cleveland.
61 Expert Testimony. G. Stockton, Columbus.
62 Blindness and Its Prevention. L. Stricker, Cincinnati.
63 Diminution of Morbidity of Parturition. G. B. Booth, Toledo.
64 *Medical Inspection of Public Schools. M. Coplan, Cleveland.

60. Abstracted in THE JOURNAL, June 10, 1911, p. 1749.

64. Abstracted in THE JOURNAL, May 27, 1911, p. 1601.

St. Louis Medical Review

September, LX, No. 9, pp. 257-288

65 Man as a Geologic Species in Western Hemisphere. A. S. Ashmead, New York.
66 Hyperinosis the Cause of Death in Chronic Parenchymatous Nephritis. A. Memminger, Charleston, S. C.
67 Surgical Treatment of Gonorrheal Pus Collections in Female Pelvis. A. Brothers, New York.
68 Inversion of Everted Lip. C. G. Miller, Chicago.
69 Different Forms of Vulvo-Vaginitis in Children: Treatment. O. Maier, New York.
70 Pathology and Etiology of Varicocele, with Abridged History of Surgical Treatment. C. A. Pfender, Washington, D. C.
71 Digitalin in Failing Kidneys. J. M. Taylor, Philadelphia.
72 *Simple Treatment for Corns. E. Griffith, New York.

72. **Treatment for Corns.**—In the method described Griffith depends on the macerating power of ordinary adhesive plaster to effect the result sought. A strip of this material from ⅜ to ½ inch (1 cm.-1.25 cm.) in width and 4 to 6 (10 cm.-15 cm.) inches long is to be applied in spiral fashion to the affected toe covering the digit from neck to nail. The degree of tightness of the application deserves consideration to avoid compression. However, the feelings of the patient when stepping on the foot will serve as an adequate guide in this matter. Instructions to cut through the plaster lengthwise or to soak off the entire dressing by immersion in a hot water foot bath affords ample protection in cases of undetected microbic infection. Soaking the foot for ten to twenty minutes in water at a temperature of 100 F., with gentle removal by rubbing with a piece of sterilized pumice stone or forceps of the crown of hardened epidermis shortens the time of treatment. Griffith contends that properly applied the dressing described should afford relief from the moment of its application, and may be worn continuously for from one to six or eight weeks, bathing seeming to unaffect the adhesive properties of the plaster after once having set. Removal of the dressing at the end of an adequate time reveals the cornus completely freed, when it may be picked out entire by means of a dressing forceps or after an additional soaking. A wisp of absorbent cotton held on by means of a narrow adhesive strap may be subsequently worn for a few days.

Lancet-Clinic, Cincinnati

September 23, CVI, No. 13, pp. 303-328

73 Surgery of Pleura: Pleurotomy, Pleurectomy, Pleurorrhapy. B. M. Ricketts, Cincinnati.
74 Case of Embolism of Superior Mesenteric Artery. H. H. Hines, Cincinnati.

Canadian Medical Association Journal, Toronto

September, I, No. 9, pp. 805-917

75 Cancer of the Stomach. H. A. Bruce, Toronto.
76 *Etiology of Cholelithiasis, Special Reference to Age-Incidence. E. S. Ryerson, Toronto.
77 *Extirpation of Thyroid in Monkeys. J. Halpenny and J. A. Gunn.
78 Graduated Dilatation of Uretero-Vesical Orifice and Ureter Above It. H. A. Kelly, Baltimore.
79 Modern Aids to Diagnosis in Otology: Their Significance. J. F. McKernon, New York.
80 *Surgical Treatment of Cholelithiasis. W. J. Mayo, Rochester, Minn.
81 Primary Tumors of Bladder. W. Hutchinson, Montreal.

76. **Etiology of Cholelithiasis.**—In 145 cases of cholecystitis studied by Ryerson, gall-stones occurred in 55.8 to 58 per cent. of patients between the ages of 15 and 45. Adding to the above the number of cases in which symptoms started in that period, the percentage is increased to 65. Ryerson found that typhoid, which is recognized as one of the exciting causes of gall-stone formation, occurs most often in the early part of that period, and that the conditions of pregnancy and fibroids of the uterus, which are known to be commonly associated with gall-stones, are most common at that time of life. Gall-stones are not found at autopsy in any larger proportion of cases after 45 than before that age. Ryerson suggests that if gall-stones are formed as the result of a chronic infection of the gall-bladder occurring most commonly between the ages of 15 and 45, why should we not try to overcome this infection? We know that if a gall-bladder is emptied of stones and drained for a short period of time, that stones very rarely reform, as the cause of their formation, chronic infection, has disappeared. If this is the case, why should we not take the same steps when we know that a chronic cholecystitis is present, which will ultimately result in the formation of gall-stones? Will the patient ever get rid of the infection if we do not drain his gall-bladder?

The anatomic arrangement of the cystic duct, on account of the infolding of the mucous membrane in the form of valves in the interior, is of such a character that it is questionable whether it can provide sufficiently free drainage to the gall-bladder to rid it of its infection. The fact that we know that there exist "typhoid carriers" in whom the typhoid bacilli have been found in the gall-bladder twenty and even thirty years after infection, also shows us that this infection of the gall-bladder tends to persist unless steps are taken to relieve it. Not infrequently, in operating on the abdomen for symptoms suggestive of gall-bladder trouble, if the surgeon cannot palpate stones in the interior of the gall-bladder or in the ducts, he closes the abdomen without opening the gall-bladder. The symptoms of chronic cholecystitis are so closely identical with those of cholelithiasis that the gall-bladder, although showing no stones or peritoneal changes, such as adhesions, should invariably be opened and drained in such cases.

He considers the simple operation for uncomplicated gall-stones, with its mortality of 5 per cent., to be an entirely justifiable procedure as a means of preventing the years and years of symptoms which gall-stones are known to cause. He predicts that the day is surely not far distant when we shall advise immediate drainage of the gall-bladder, not only for gall-stones, but also for chronic cholecystitis, such as that complicating typhoid or other intestinal infection, and by so doing prevent the formation of gall-stones, with their years of chronic indigestion, repeated attacks of biliary colic and irritation resulting in malignant disease.

77. **Extirpation of Thyroid in Monkeys.**—The thyroid and parathyroids were extirpated by Halpenny and Gunn in eight monkeys. Briefly, the results were as follows: EXPERIMENT 1.—Remained well for three days; died on the sixth day, having shown no symptoms other than slight tremor and listlessness. EXP. 2.—Remained well for four days when some stupidity and paresis were observed. On the twelfth day there was some puffiness of the face. At no time was there any tremor or pronounced tetany observed. Died on the seventeenth day. EXP. 3.—Symptoms of tetany on the third day. Died on the seventeenth day in an emaciated condition. EXP. 4.—Had typical tetany on the seventh day. Died greatly emaciated on the eighteenth day. EXP. 5.—Typical nervous symptoms on the thirteenth day. This condition lasted with intermissions for five days. The animal then practically recovered and remained in good health till the sixty-third day, when paresis again occurred. On the seventy-first day it was found in a comatose condition, when a small dose of thyroid extract was given. After a few hours tetany supervened. The animal died the following day, seventy-two days after operation. EXP. 6.—No symptoms of any kind were observed till seventy-one days after the operation, when there was some malaise and loss of appetite. The monkey got steadily feebler and more apathetic until the eighty-first day, when it died, having shown no specific nervous symptoms. EXP. 7.—Remained well till the fifth day, when slight nervous symptoms came on. Remained in a state of moderate feebleness till the thirty-sixth day, when it had a distinct attack of tetany. From this the animal did not recover and died on the following day. After the final attack of tetany, a small dose of thyroid was administered. EXP. 8.—Symptoms similar to those of No. 7. On the thirty-sixth day the monkey was in a comparatively good state of health, although by no means free from symptoms. Three fairly large doses of thyroid extract were administered at intervals of several hours. Acute tetany supervened and the animal died on the fortieth day.

80. Abstracted in THE JOURNAL, July 15, 1911, p. 244.

New York State Journal of Medicine, New York

September, XI, No. 9, pp. 439-450

82 *Treatment of Intestinal Tuberculosis. S. G. Gant, New York.
83 *Developmental Defects of Abdominal Viscera and Their Surgical Significance. W. F. Campbell, Brooklyn.
84 *Precancerous Stage. P. Syms, New York.
85 *Rôle of Physicians in Prevention of Insanity. A. W. Ferris, New York.
86 Arteriosclerosis, or Cardiovascular Disease. L. F. Bishop, New York.
87 Misinterpretation of Cardiac Pain. A. Lambert, New York.
88 Treatment of Tumors of Urinary Bladder with Oudin High-Frequency Current. E. Beer, New York.
89 Experience of Army with Vaccination as Prophylactic Against Small-Pox. J. V. Hoff, U. S. Army.
90 Diagnosis and Treatment of Tropical Infections. S. M. Shook, U. S. Navy.
91 Etiology and Treatment of Certain Forms of Periodical Headaches. N. A. Pashayan, Schenectady, N. Y.
92 Bladder and Prostate. J. F. W. Whitbeck, Rochester, N. Y

82, 83, 84 and 85. Abstracted in THE JOURNAL, May 20, 1911, pp. 1506 and 1507.

Colorado Medicine, Denver

September, VIII, No. 9, pp. 297-336

93 Duties and Attitude of Medical Profession to Public. W. H. Swan, Colorado Springs, Colo.
94 *Modification of Torek Combined Operation for Removal of Appendix and Cure of Right Inguinal Hernia. H. M. Cohen, Denver.
95 *Apical Pregnancy. C. B. Ingraham, Denver.

94. **Modification of Torek Combined Operation.**—Cohen's modification of Torek's operation deals with the disposal of the neck of the hernial sac. After the appendix has been removed and the peritoneum over it sutured, the ends of the suture uniting this portion of the peritoneum are left long. The peritoneum around the neck of the hernial sac is now bluntly loosened for a distance of about ¾ of an inch. Through the opening in the internal oblique and transversalis over the appendix, a forceps is bluntly pushed along between peritoneum and muscle until the neck of the hernial sac is grasped. The sac is then dislocated upward and tied with the ends of the peritoneal suture, which have purposely been left long. In this way the neck of the sac is not only doubly ligated, but is also dislocated by pulling it away from the weak internal ring, thereby more positively guarding against a recurrence of the hernia. Cohen has used this method in but two cases, both resulting in positive cures.

95. **Apical Pregnancy.**—In Ingraham's case the placenta was found situated in the right uterine cornu, extending two-thirds the distance on the right wall of the uterus. This was detached, broken up and removed with the ovum forceps. The right wall of the uterus was thin and pouched, the left wall was distinctly thicker. No septum as in a uterus bicornis unicollis was palpable. The morcellated fetus when reconstructed was 16 cm. in length, showing the pregnancy to be about four months in duration.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

September 15, XXXI, No. 18, pp. 429-454

96 Fractures of Long Bones and Principles of Treatment. J. W. Freeman, Lead, S. D.
97 Some Essential Differences Between Common Surgical Affections of Infancy and Childhood and Similar Conditions in Adults. H. B. Smith, Fargo, N. D.
98 Royal London Ophthalmic Hospital Clinic. S. E. Kerrick, Minneapolis.

Pennsylvania Medical Journal, Athens

September, XIV, No. 12, pp. 927-988

99 Postoperative Psychoses. J. H. W. Rhein, Philadelphia.
100 *Proper Use of Adhesive Plaster. P. G. Skillern, Philadelphia.
101 Empyema of Sinus Maxillaris. J. P. Tunis, Philadelphia.
102 Prophylaxis of Cancer. D. Guthrie, Sayre.
103 Hygienic Errors in Rural Schools. H. W. Knight, Rutland.
104 Professional Fellowship. J. J. Coffman, Scotland.
105 *Coincident Intra- and Extra-Uterine Pregnancy. B. C. Hirst, Philadelphia.
106 Campaign Against Tuberculosis in Pennsylvania. T. H. A. Stites, Harrisburg.
107 Latest Military Sanitation, as Practiced at Mt. Gretna. S. P. Heilman, Heilman Dale.

100. **Proper Use of Adhesive Plaster.**—In applying adhesive plaster directly to the skin Skillern takes pains to shave the hair. If the part has not been shaven, painful removal of the plaster is obviated by using refined medicinal benzin; it is cheap, antiseptic and cleansing, and rapidly volatile. Like turpentine, it is antiseptic, thus diminishing infection of hair follicles, and it readily dissolves the zinc oxid and removes the dirt which collects around the edges of the plaster. Often small pustules are exposed on removal of the plaster. Skillern finds that these may often be prevented by sterilizing the skin, even though imperfectly, with dilute alcohol, iodid of mercury or formaldehyd in solution, before applying the plaster, the idea being to sterilize as far as possible the hair follicles and sebaceous glands, through which bacteria commonly infect the skin. He believes the custom of storing strips on the wall within handy reach of the surgeon accounts to some extent for these little infections. To obviate this he prefers to tear strips himself from the original 5-yard roll, as this is much cleaner and permits the proper adaptation of the length and width of the strip to the case under treatment. Better retention is obtained by using a few broad, stout strips in place of many narrow ones, and the length of the strip should be gauged by the weight of the dressing. On immovable parts of the skin he uses, when possible, the flexible collodion and cotton-cocoon dressing, but on movable parts, such as the neck, this is stiff and annoying.

When applied to retain bandages in place, rubber adhesive-plaster strips may be used; as a rule, the narrower the better. Strips 3/16 of an inch in width usually suffice, are economical and more readily moulded to the part. These are best applied by simply following the turns of the bandage, which on the extremities usually describe a figure-of-eight. On cylindrical parts, such as digits and stumps, Skillern applies the strips so as to imitate the staves and hoops of a barrel. Where turns cross approximately at right angles to each other, as in the spica of the groin or shoulder and particularly in head bandages, far better retention is obtained by inserting pins so as to include the layers. This insures against vertical turns slipping sideways and horizontal turns slipping up or down. Strips may then be so adjusted as to cover the pins to prevent accidental scratches. In the skull-cap bandage he applies the coronal strips first, securing their ends by lateral fronto-occipital strips, it being important to place the latter strips well below the external occipital protuberance.

He has found the secret of retaining the spica bandage of the groin to lie not only in placing the ascending turns above the iliac crest, but in inserting pins through the cross layers and ½-inch strips of adhesive plaster at both edges of the bandage, and throughout its entire length. It is most important to place the inner strip as close as possible to the origin of the adductor longus tendon, much better retention being obtained in this way. If a wet dressing has been used it is necessary, and in any event always desirable, to interpose waxed paper between the gauze and the cotton compress which Skillern invariably places under the bandage to equalize the circulation.

105. **Coincident Intra- and Extra-Uterine Pregnancy.**—The history of Hirst's case is as follows: Mrs. M., aged 32, married ten years, two children; one miscarriage four years ago. Menses regular but scanty and short in duration; in January unusually scanty; in February a week late. Patient had had pain in ovarian region for some time but for last two weeks very severe and of a colicky character. A vaginal examination revealed a large tubo-ovarian mass on the right side and in Douglas' pouch. Diagnosis was ectopic gestation. An operation was performed the following day. Free blood in abdomen and right-sided tubal gestation were found. Ten days after operation there occurred an abortion of a six-weeks' embryo and sac from the uterus. The patient recovered.

Boston Medical and Surgical Journal

September 21, CLXV, No. 12, pp. 431-468

108 Progress and Tendencies in Practice of Medicine. O. H. Howe, Cohasset, Mass.
109 Reminiscence of My Professional Life. D. W. Cheever, Boston.
110 Some Comments on Results of Operative Measures for Knee Affections. H. W. Marshall and L. A. O. Goddu, Boston.
111 New Combination Mouth Gag and Tongue Depressor. R. A. Coffin, Boston.
112 What Is a Tuberculosis Sanatorium? E. O. Otis, Boston.

September 28, XV, No. 13, pp. 469-504

113 *Mechanism of Pressure in Production of Vertigo; Report of Cases. C. J. Blake, Boston.
114 Value of Lumbar Puncture in Treatment of Aural Vertigo. J. J. Putnam, Boston.
115 Cancer of Colon. H. Gage, Worcester.
116 Surgical Treatment of Pyloric Stenosis; Report of Cases. S. W. Goddard, Brockton.
117 Reminiscence of My Professional Life. D. W. Cheever, Boston.

113. **Mechanism of Pressure in Production of Vertigo.**—In cases of recurrent vertiginous attack with inadequate evidence of an intralabyrinthine or of an accessible extrinsic pressure factor, it seemed desirable to Blake to test the effect, on the line instituted by Babinski, of decrease of intracranial and, correspondingly, of intralabyrinthine pressure by some means which would leave the auditory apparatus intact, an additional incentive to such a series of investigations being previous experiences in disturbances of intralabyrinthine pressure, incident to investigations in regard to the removal of the stapes. Under these considerations, in a series of adult cases in which the extrinsic pressure factor was at a minimum, or absent, lumbar puncture was practiced with results thus far sufficiently favorable to warrant a continuation of the investigation. In no instance were there more unfavorable consequences than severe headache of several days' duration in three instances; in all of the patients treated there has been a temporary amelioration of the condition, and, in the majority, entire relief from the vertiginous attacks, during a period of from a few months to three years, the latter being the major limit of observation.

In two cases in which the attacks recurred within a year the onsets were less severe and the complex incomplete, and a repetition of the lumbar puncture was followed by entire relief up to the date of the last observation.

In all instances the withdrawal of fluid ranged from 10 to 15 c.c., and the cases were kept under immediate observation for several days.

New York Medical Journal

September 30, XCIV, No. 14, pp. 665-712

118 Apollyons. W. B. Konkle, Montoursville, Pa.
119 Series of Studies of Nervous Affections in Relation to Adjustments of Eyes. G. T. Stevens, New York.
120 Report of Psychotherapeutic Clinic at Cornell Dispensary. H. W. Frink, New York.
121 Twilight Talks with Doctor. G. F. Butler, Chicago.
122 Headache. W. Taylor, Atlanta, Ga.
123 Music as a Therapeutic Agent. J. Knott, Dublin.
124 Proctoclysis: New Apparatus for Its Administration. A. E. Isaacs, New York.
125 An Address to Nurses. J. M. Ferrer, New York.

Medical Record, New York

September 30, 80, No. 2134, pp. 659-708

126 *Climatic and Hygienic Influences of Forest Growth. J. M. Anders, Philadelphia.
127 *Prevalence of Intestinal Parasites Among Immigrants. H. M. Manning, Washington, D. C.
128 Treatment of Anemic Enteroptotic Dyspepsia. C. F. Peckham, Providence, R. I.
129 Alcoholism as Complicating Factor of Anesthesia. F. H. McMechan, Cincinnati.
130 *Tinea Versicolor in Three Sisters. F. C. Knowles, Philadelphia, and E. Corson, Cynwyd, Pa.
131 Significance of Relapses. O. L. Muiot, Brooklyn.
132 Case of Perisinus Abscess, Suppurative Lateral Sinus Thrombosis, Jugular Ligament; Recovery. C. D. Van Wagenen, New York.
133 Case of Chylangiomata. C. P. Farnsworth and W. T. Lindsay, Chamberlain, S. D.
134 Strangulation of Uterine Fibroid by Torsion of Pedicle. F. B. McCreery, New York.

126. Abstracted in THE JOURNAL, Aug. 5, 1911, p. 502.

127. **Intestinal Parasites Among Immigrants.**—Of the 412 immigrants of all nationalities examined by Manning 166, or 40.2 per cent., were infected with one or more intestinal worms. Of the 282 males 115, or 40.7 per cent., and of the 130 females 51, or 38.4 per cent., were infected. Ninety-one, or 22 per cent., were infected with *Trichuris trichiura*, of whom 68 were males and 23 females, giving the rates of 24.1 and 17.6 per 100, respectively. The rate of infection with this parasite was highest among those from Russia; the rates for the different countries were 18.1 per 100 for Austria-Hungary, Greece 20.9, Italy 22.2, Russia 32.3, and Turkey 15 per 100. It was the most frequent parasite found among those from Austria-Hungary and Greece, and among these the males were more frequently infected than the females.

The *Ascaris lumbricoides* was present 118 times, or 28.6 per 100. Among the males 80, or 28.3 per cent., and among the females 38, or 29.2 per cent., were infected with this worm. The rates for the different nationalities were: Austria-Hungary 15.1, Greece 18.6, Italy 43.5, Russia 34.2, and Turkey 28.3 per 100. Italy showed the highest rate for this parasite. This is the most frequent parasite found and occurs more frequently among the females than the males, although Italy, Russia and Turkey show a higher rate for the males.

Only 1 infection with the *Oxyuris vermicularis* was found, but no doubt the reason for not finding it more frequently was due to the rarity with which the eggs are found in the feces.

Two cases of infection with the *Strongyloides stercoralis* were found, 1 in an immigrant from the British West Indies and 1 from Russia. The rate of occurrence of this parasite for all immigrants examined was 0.48 per 100. Both of these cases were in males, and in the case from the West Indies his anemic condition suggested the suspicion of hookworm infection, but after repeated examination of several fresh stools, no ova were found, but numerous larvæ of the Cochin China worm.

The Italian boy infected with the *Ankylostoma duodenale* was the only case of hookworms found. The rate of occurrence of this parasite among all the immigrants examined is .24 per 100.

Seven infections with tapeworms were found, 1 a case of infection with the *Dibothriocephalus latus* in a Russian woman, 3 males and 2 females among those from Turkey, and 1 female child among the Greeks. Two of those among the Turkish men were *Tænia saginata* and in the case of the 4 others the species were not determined. The rate of prevalence of the *Dibothriocephalus latus* among the Russians was .95 per 100, the rate of *Tænia* among the Greeks being 2.3, and among the Turks 9.4 per 100.

Among the 76 immigrants under 15 years of age there were 58 infections, or 76.6 per 100. Among the 259 between 15 and 31 years there were 128 infections, or 49.4 per 100. Among the 70 between 31 and 50 years there were 30 infections, or 42.8 per 100. Among the 7 over 51 years of age there were 4 infections, or 57.1 per 100. This shows that among all the immigrants examined the heaviest infection occurred in early life and tends to diminish with age. The rise in the case of those over 51 years may be due to accident on account of the small number examined.

Among the 412 immigrants there were 220 infections, giving the rate of prevalence of intestinal parasites as 53.39 per 100. Among the 282 males there were 155 infections, or 54.96 per 100, and among the 130 females there were 65 infections, or 50 per 100, showing that intestinal worms are slightly more frequent among the males than among the females.

130. **Tinea Versicolor in Three Sisters.**—The three sisters whose cases are reported by Knowles and Corson were all born in Russia although Philadelphia has been their place of residence for some years. They are healthy, but being extremely poor their cleanliness was not such as might have been desired. They occupied the same bed and occasionally used the same towel.

Archives of Ophthalmology, New York

September

135 Field of Vision in Tabetic Atrophy of Optic Disk. E. Fuchs, Vienna.
136 New Model of Large Eye Magnet, Method of Employment. O. Haab, Zurich.
137 Pathology of Superficial Punctate Keratitis, Neuropathic Keratitis and Hitherto Undescribed Lesion of Iris. F. H. Verhoeff, Boston.
138 Tonometry, with Description of New Tonometer. H. Schiötz.
139 Phorometry of Normal Eyes in Young Male Adults. P. C. Field, U. S. Army.
140 Dystrophia Epithelialis Cornea (Fuchs). A. Knapp.
141 Keratitis Punctata Subepithelialis. H. S. Gradle, Chicago.

Long Island Medical Journal, Rockville Center

August, V, No. 8, pp. 305-338

142 Some Things Doctors Ought to Think Of. J. D. Bryant, New York.
143 When Shall We Operate in Puerperal Septic Infection. J. O. Polak, Brooklyn.
144 Complaints Against Pharmacist and How to Remedy Them. R. E. Jones, Brooklyn.
145 The Samaritan Hospital. L. T. Jackman, Brooklyn.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 9, No. 2645, pp. 529-592

1 Educational Number. Sessions 1911-1912.

Lancet, London

September 9, CLXXXI, No. 4594, pp. 743-808

2 Surgical Gastric Disorders. Their Treatment and Results. E. S. Bishop.
3 Will National Health Insurance Ensure National Health? E. J. Schuster.
4 *Lymphatism Occurring in the East. A. Whitmore.
5 *Two Rare Manifestations of Bilharziosis. F. C. Madden.
6 Case of Eclampsia. G. De B. Turtle.
7 *Influence of Salicylates and Kindred Drugs on Thyroid Activity. H. E. Waller.
8 *Mediastinal Causes of Chronic Cough in Children. H. French.
9 *"Comforter" Otitis Media. W. H. Bowen.
10 *Treatment of Torticollis. P. B. Roth.
11 Case of Suppurating Inguinal Ovarian Hernia; Operation; Recovery. J. J. Waddelow.
12 Case of Recurrent Ileocecal Intussusception; Operation; Recovery. J. D. Fiddes.
13 Toxic Effect of Acetosalicylic Acid. A. Brown.
14 Case of Torsion of Testicle. W. Attlee.

September 16, CLXXXI, No. 4595, pp. 809-870

15 Review of Vital Statistics of Ireland Since 1864. W. J. Thompson.
16 *Treatment of Constipation. J. Sawyer.
17 Case of Acute Poliomyelitis in Adult. C. M. H. Howell and B. T. Parsons-Smith.
18 *Treatment of Hay Fever by Hypodermic Inoculations of Pollen Vaccine. J. Freeman.
19 *Some Points in Injuries to Elbow-Joint. R. L. Joynt.
20 *Traumatic Rupture of Abdominal Viscera. A. R. Short.
21 Chronic Obstruction of Bowel in Hydrocephalic Imbecile; Results at Post-Mortem Examination. A. L. E. F. Coleman and H. D. Everington.
22 Operative Treatment of Retroversion and Prolapse of Uterus. A. E. Morison.
23 Clinical Appearance in Two Cases of Cerebral Disease. J. H. Aytoun.
24 Phthisis in Wales. H. R. Jones.

4. **Lymphatism in East.**—Whitmore found sixteen cases of lymphatism in 565 bodies examined. In five, and probably in six, of the cases quoted the deaths were due to causes other than any peculiar dyscrasia of which the persistence of the thymus gland and the general hyperplasia of lymph tissue are the outward and visible signs.

5. **Bilharziosis.**—The first case reported by Madden was one of bilharziosis of the spermatic cord simulating tuberculous epididymitis. In the second case hemospermia was the first symptom of bilharziosis.

7. **Influence of Salicylates on Thyroid Activity.**—Three cases are cited by Waller to prove his contention that salicylates have a powerful influence against thyroid activity. For instance a robust adult had an acute tonsillitis. He had stuck to his work for three or four days when Waller first saw him one morning. He had then taken to his bed with a pulse-rate of 120 and temperature 102 F. He had headache and aches and pains in the limbs severe enough to suggest rheumatism, but possibly only influenzal. He was given a mixture containing 15-grain doses of sodium salicylate and ½-grain doses of compound tincture of cinchona. But owing to variations in the size of the domestic tablespoon, he repeatedly took a larger dose, roughly, 20 grains of salicylate and 40 minims of bark, every four hours. He then had a (morning) pulse-rate of 48 and temperature of 96.4 F. He had sweated profusely the first night, and his bowels were obstinately constipated, resisting strong doses of aperient. The pulse and temperature remained at this low level all the next day, and the bowels were still obstinately constipated in spite of aperients, though the salicylate mixture had been left off. Thyroid, 2½ gr., twice a day, was then given for two days, and the temperature again rose, this time to nearly 101 F., and the pulse to 98. The throat progressed rather slowly in spite of energetic antiseptic treatment which had given excellent results in other cases. The patient returned to work twelve days after Waller first saw him, when in spite of full doses of strychnin he had a very soft dicrotic pulse of 76 and a blood-pressure of only 100 mm. mercury.

8. **Mediastinal Causes of Chronic Cough in Children.**—Chronic enlargement, sometimes no doubt associated with tuberculous caseation, of the lymph-nodes at the bifurcation of the trachea is believed by French to be a cause in these cases of chronic cough. The bronchial node immediately below the right bronchus is affected far more frequently than is the node on the left side, and the right phrenic nerve is frequently seen to be displaced by the enlarged lymph-node in such a way as probably to be much irritated by it and thus lead to attacks of purposeless coughing—that is to say, coughing which does not succeed in bringing up any sputum. In a certain number of cases it is possible to demonstrate the enlargement of this right bronchial node by means of the Roentgen rays. French suggests that the attacks of coughing which are so troublesome in some heart cases are to be explained by irritation of the phrenic nerves in a similar way, by their being displaced and stretched by the dilated and hypertrophied heart. The importance of realizing that enlarged bronchial lymph-nodes may be the cause of persistent coughing in children is that the enlargement is generally tuberculous, and therefore the correct treatment is to adopt the general hygiene best adapted to the relief of a tuberculous infection together with measures calculated to prevent the swallowing of more living tubercle bacilli, an end to be accomplished either by obtaining milk from cows that have been tested satisfactorily with tuberculin, or else by making sure that any tubercle bacilli in the milk have been killed by efficient sterilization, preferably by thorough boiling.

9. **"Comforter" Otitis Media.**—The way in which the "comforter" acts is by introducing oral sepsis. This, in Bowen's opinion, is the crux of the matter. The "comforter" is at fault only in so far as it introduces sepsis leading to what are probably catarrhal processes, giving very little, if any, signs or symptoms in the mouth, oropharynx and nasopharynx; but once they spread by the tube to the middle ear, the lack of drainage quickly becomes felt and suppuration often results. That catarrh alone may result, with painful distention of the middle ear, is probable from the occurrence of pain in the ears in some babies who never get discharge coming from the meatus. Even if it gets no further than a painful catarrhal process, however, it is capable of doing considerable damage in a small enclosed space like the middle ear.

10. **Treatment of Torticollis.**—Roth calls attention to the fact that after torticollis has been treated by tenotomy no retentive apparatus is necessary. After division of the muscle and fascia by the open operation, the head is firmly manipulated into an overcorrected position. The child is then put back to bed with the head between sandbags, and on the second or third day is allowed up and gentle passive movements are begun. On the fifth or sixth day active movements take their place, and after removal of the stitches the mother is shown how to superintend the carrying out of these movements at home for five minutes twice a day.

16. **Treatment of Constipation.**—The importance of hygienic measures, exercise and diet are pointed out by Sawyer. For a case of habitual constipation which does not cure without medicines, his favorite remedy is Socotrine aloes, suitably combined and exhibited as a pill, at bedtime. Myrrh and aloes and cassia can, he says, still make coprostatics glad; myrrh, with its old repute of giving an impetus to the digestive organs, and an increase of muscular power to the digestive canal, Socotrine aloes and cassia pulp, of each equal proportions, made into a pill of the weight of 5 gr. with syrup or castor oil. One pill or more may be given for a dose, as found to be needed, and their administration should be gradually reduced and omitted altogether so soon as may be. He emphasizes that no case of habitual constipation can be treated by rule of thumb.

18. **Treatment of Hay-Fever.**—Considering all the cases generally, there seems little doubt in Freeman's mind that there has been a distinct amelioration of symptoms in all his cases treated by pollen vaccine. This improvement took several forms: a greater freedom from attack, the attack not so bad as in former years, and the attack sooner over; the constitutional disturbance not so great; less asthma. The people who had already developed hay-fever when they commenced were, perhaps, the most generous in their comments, possibly because they had recently had a reminder of what hay-fever was like.

20. **Traumatic Rupture of Abdominal Viscera.**—Excluding cases admitted moribund, out of ten patients with ruptured liver, intestine, pancreas, or spleen, the pulse-rate when they were first seen was in one case 100, in another 99, and in seven about normal. In one it was only 30. In every case of rupture of any abdominal viscus in which the pulse-rate on admission exceeded 100, the patient died within twenty-four hours. Short says it is often mentioned that the volume and tension were good. The text-books usually state that the pulse-rate will rise if there is a serious injury. This was true in at least six cases, but in one of ruptured liver it fell from 84 to 62. The temperature seems to be of more value. It is only recorded nine times; in five of these it was markedly subnormal. Pallor or anxious appearance is often remarked on. Abdominal pain and rigidity were almost constant, except in the tragic and deceptive cases. Vomiting was not usual. Only one patient vomited blood. The diagnosis was usually made by observing that after some hours the appearance, the abdominal condition, and the pulse did not improve; in many there was a decided change for the worse.

Dublin Journal of Medical Science

September, No. 577, pp. 161-240

25 Sphere of Women in Relation to Public Health. Countess of Aberdeen.
26 The Pupil and Mechanism of Its Reflexes in Health and Disease. J. H. Woodroffe.
27 Artificial Eruptions. A. F. B. Shaw.

Practitioner, London

September, LXXXVII, No. 3, pp. 273-408

28 Lymphatic Infection from Appendicitis Without Peritonitis. A. E. Barker.
29 Gunshot Wounds and Their Treatment. J. Berry.
30 *Residual Urine in Old Men. A. G. Miller.
31 Hernia in Children, with Special Reference to Variations of Sac and Contents. D. Drew.
32 *Prognosis of Heart Disease. J. F. H. Daily.
33 Cleft-Palate Controversy; Its Present Position. F. W. Goyder.
34 Surgery of Commoner Acute Abdominal Lesions. R. Coombe.
35 Hyperemia in Treatment of Skin Diseases. W. K. Sibley.
36 Fatalities During Anesthesia. J. D. Mortimer.
37 Cretinism. B. C. A. Leeper.
38 Pathologically High Blood-Pressure, Its Treatment by Non-Medicinal Methods. A. A. Hudson.
39 Choice of Patient for Artificial Pneumothorax in Treatment of Chronic Pulmonary Tuberculosis. S. V. Pearson.
40 Differential Diagnosis of Tabes. H. Matthews.
41 An Old Medical Journal. A. D. Edwards.

30. **Residual Urine in Old Men.**—The object of the treatment suggested by Miller in these cases is twofold, to improve the muscular tone of the bladder by exercise and to train the bladder to empty itself, to enable it to acquire a good habit. He advises those having residual urine after passing water in the usual way to wait a minute or two and then try again. Practice this as frequently as possible, till only a very small quantity can be squeezed out (say, half an ounce). When this point has been reached, twice or thrice daily may suffice. The most important times are before going to bed and on rising in the morning. On these occasions it may be advisable, at first, to make three, or even more, efforts so as to make sure of thoroughly emptying the bladder. It is not advisable to wait too long before making the second effort. About one minute is generally quite sufficient, certainly not more than two; because after the act of expelling the urine the bladder may quiet down if the patient waits too long, and a considerable effort may be required to start the flow again.

32. **Prognosis of Heart Disease.**—Dally says that all things being equal, the descending order of gravity of the chief valvular lesions may broadly be stated as follows: (1) Aortic and mitral disease combined, (2) aortic regurgitation, (3) mitral stenosis, (4) aortic stenosis, and (5) mitral regurgitation.

Australasian Medical Gazette, Sydney

August 21, XXX, No. 359, pp. §23-§8§

42 Some Results of Vaccine Therapy. F. Tidswell.
43 Observations on Surgery of Paralysis. W. J. S. McKay.
44 Deadborn and Stillborn Babies (Asphyxia Neonatorum). J. H. Cameron.
45 Feeble-Minded Children. A. Davidson.
46 Four Cases of Myxedema. A. G. Salter.
47 Case of Stokes-Adams Disease of Heart. C. Purser and N. J. Davis.
48 Local Anesthesia. A. J. J. Triado.
49 Pathogeny of Ulcerating Granuloma. C. L. Strangman.
50 Internal Derangements of Knee Joint. J. P. Hastings.
51 Meddlesome Gynecology. O. Smithson.
52 Acute Epiphysitis in New-Born and Early Dentition. J. A. Wattt and W. S. Sweet.
53 Cause of Sudden Death After Diphtheria. S. Sheldon.
54 Case of Fibroma of Larynx. F. Tratman.

Journal of Obstetrics and Gynecology of British Empire, London

August, XX, No. 2, pp. §7-8§

55 *Extraperitoneal Cesarean Section. E. H. Tweedy.
56 *Expulsion of Placenta Before Birth of Child. W. D. MacFarlane.
57 Case of Sarcoma of Uterus. E. Holland.
58 Cesarean Section for Severe Cardiac Disease, Done Under Spinal Anesthesia. J. Wyatt.
59 Cure of Vesicovaginal Fistula by Abdominal Section. E. H. Tweedy.
60 *Ovarian Cyst with Torsion of Pedicle, Giving Rise to Unusual Symptoms. W. D. MacFarlane.

55. **Extraperitoneal Cesarean Section.**—So far as Tweedy's experience goes he would not consider extraperitoneal Cesarean section an alternative to classical Cesarean section, but rather its complement.

56. **Expulsion of Placenta Before Birth of Child.**—The points of interest in the three cases cited by MacFarlane are: (1) The premature expulsion of the placenta in all pointing to placenta prævia; in one case the last two pregnancies were complicated by placenta prævia. (2) The shape and unusual length of the placenta in two of the cases. It is not unusual to have the placenta crescentic in shape when situated near the os internum. (3) The uniform presence of areas of placental infarction on the maternal surface. (4) The presence of hydramnios in two of the cases. (5) A history of endometrial involvement in all the cases. (6) The absence of hemorrhage either before or after the expulsion of the placenta. The puerperium in these three cases was normal.

60. **Ovarian Cyst with Torsion of Pedicle.**—MacFarlane's patient gave a history of kidney pain of seven years' duration, and of three recent attacks of pain of an unusually severe nature accompanied by sickness and vomiting. The pain was most acute in the left lumbar region, followed the course of the left ureter, and there was dysuria and very frequent micturition; at no time had there been evidence of hematuria. The pain had at no time any relation to menstruation and was not accompanied by any bloody discharge from the vagina. All the thoracic organs were normal. On palpation, a tense, cystic swelling was found occupying the middle line from the symphysis pubis to within three fingers' breadth of the umbilicus; it did not seem to have much mobility and was painless on pressure or attempted movement. The percussion note was dull over the swelling and resonant in flanks. Omentum and intestines were densely adherent all over the surface of the tumor. The rectum and right uterine appendages were also firmly attached to the cyst wall. After removing the adherent omentum and bowel from the tumor wall, a long thin pedicle with three turns from left to right was found attached to the tumor, which proved to be a unilocular cyst of the left ovary.

British Journal of Children's Diseases, London

September, VIII, No. 93, pp. 385-§32

61 Orthostatic Albuminuria. F. P. Weber.
62 Typhoid in Childhood: Analysis of 100 Consecutive Cases. E. B. Smith.
63 Surgical Aspects of Acute Abdominal Disease in Childhood. H. S. Clogg.

Heart, London

August, II, No. 4, pp. 273-386

64 *Digitalis. J. Mackenzie.

64. **Digitalis.**—A careful and thorough clinical study of digitalis was made by Mackenzie in forty-three cases, which are reported in detail, and for these the original article (covering 113 pages) must be consulted. Mackenzie summarizes his findings as follows: The careful analysis of the symptoms of patients to whom digitalis has been administered brings out the fact that individuals react differently to the drug. So far as the heart is concerned, the difference is partly dependent on the nature of the lesion with which the heart is affected. Patients with auricular fibrillation are more readily and more markedly affected than patients with the normal rhythm. Digitalis, in a proportion of patients with normal rhythm, affects the auriculoventricular bundle more particularly, producing partial heart-block. It is suggested that the susceptibility of patients with auricular fibrillation may result from the tendency of the digitalis to affect the bundle, the change in the auricular condition rendering the bundle more susceptible to the influence of the digitalis. It is possible that in slowing the heart's rate, the digitalis acts by stimulating the vagus nerve. Digitalis tends to induce auricular fibrillation. In two cases of tachycardia, arising from an abnormal source, digitalis caused the heart to revert to a normal rhythm, first inducing fibrillation of the auricle. The diuretic effects of digitalis may be produced with no perceptible change in the heart.

Clinical Journal, London

September 13, XXXVIII, No. 985, pp. 353-368

65 Hydatidiform Mole. G. Blacker.
66 Tragedies of Ocular Disease. P. Dunn.
67 Rickets: Its Cause and Treatment. E. Pritchard.

Annales de Gynécologie et d'Obstétrique, Paris

August, XXXVIII, No. 8, pp. §§9-§96

68 *Suppuration and Gangrene of Uterine Fibromas. P. Lecène.
69 Lymphoid Growths in Chronic Salpingitis. Meriel and Bassal.
70 Diathermia in Gynecology. (Nouvelle méthode de thermothérapie dans les maladies gynécologiques.) S. Flatau.
71 Dry Bolus Alba in Treatment of Catarrhal Conditions in Female Genitalia, Etc. (Traitement des écoulements chez la femme.) M. Nassauer.

68. **Gangrene of Uterine Fibromas.**—Lecène reports seven cases of fibromas with various complications, such as aseptic decay, suppuration or putrefaction of the fibromyomas. He has had only one case of infection and suppuration of a fibroma in the uterus, among the ninety-five uterine fibroma cases in which he has operated in the last six years. The infection was from the colon bacillus and probably of intestinal origin; the general health was much impaired, the pulse rapid, with fluctuating high fever. In one case of gangrenous fibroma he sterilized the vagina with iodin and sutured the cervix of the uterus to close it water-tight so that he was able to remove the uterus without escape of infectious matter. The gangrenous fibromas have a special dregs-of-wine color which extends through the internal genitals as he shows in a colored plate.

Presse Médicale, Paris

September 6, XIX, No. 71, pp. 713-720

72 *Acquired Tolerance to Certain Poisons, Especially to the Toxic Action of Organ Extracts. (L'accoutumance rapide de l'économie à l'action de quelques poisons.) H. Roger.
73 Technic for Testing the Hearing in Young Children. (Technique de l'examen auditif.) P. M. Constantin.

72. **Acquired Tolerance to Toxic Substances.**—Roger states that the strength of the solution and the rapidity of the injection are important factors in the effect of experimental injection of poisons, as he shows by reports of several series of researches. They suggest the necessity for studying from the bottom anew the toxicologic action of extracts of organs. Champy and Gley have recently reported that injection of a dose of extract of corpus luteum, not immediately fatal, immunizes the animals in less than fifteen minutes, so that they will bear without harm injection then of ten times the dose fatal for the controls. They have coined for this rapid immunization the term "tachyphylaxis," and Roger reports similar experiences with rabbits injected with extract of lung tissue. The serum of a rabbit thus immunized does not enhance the resisting powers of a previously untreated animal. He calls attention to this negative result as showing the marked difference between this rapidly acquired tolerance and the slow immunization which can be acquired against microbian poisoning. He thinks the more proper term would be "tachysynethia," to indicate rapidly becoming accustomed, in contrast to the phenomena connected with antimicrobian vaccination. This factor of the organism becoming accustomed to an organ extract has been overlooked in the research hitherto on the internal secretions of the various organs.

Revue de Gynécologie, Paris

June, XVI, No. 6, pp. 553-659

74 Abdominal Operations for Malformation of the Uterus. P. Gouillioud.
75 Long Survival After Gastro-Enterostomy for Cancerous Stenosis of the Pylorus. S. Mélamet.

Revue de Médecine, Paris

July, XXXI, No. 7, pp. 513-592

76 *Tuberculous Pericarditis. O. Jacob and Chavigny.
77 Clinical Forms of Pulmonary Tuberculosis According to Bard's Classification. R. Burnand.
78 *Weakness and Mania After Apoplexy. (L'asthénomanie post-apoplectique. Benon.

August, No. 8, pp. 593-671

79 Subacute and Chronic Pneumococcus Infection of Lungs or Bronchi. O. Crouzon and C. Richet.
80 Raynaud's Disease and Cardiovascular Lesions. J. Bret and J. Chalier.
81 Polyglandular Syndrome. (Syndrome d'insuffisance pluriglandulaire; lésions predominantes de l'ovaire.) Abrami, L. Kindberg and Cotoni.
82 Pathologic Changes in the Reflexes After Trauma of the Spinal Cord. Mattiroio.

76. **Tuberculous Pericarditis.**—Jacob and Chavigny report a case of tuberculous pericarditis with much effusion in which the diagnosis was long dubious; pericardotomy alone cleared up the case and has apparently cured the patient. This affection has no pathognomonic signs or symptoms; even puncture may prove misleading and do actual harm while from the therapeutic point of view it is inadequate and has to be inevitably followed by pericardotomy sooner or later. They advocate therefore pericardotomy as the routine procedure at the start without wasting time on other measures. Their patient was a waiter, 23 years old, with a tendency to asphyxia and cyanosis but change of position did not modify the position of the heart. The pulse was of the paradox type; the area of heart dulness was not enlarged but it was absolute and roentography showed the heart shadow enlarged, with round outlines and no concavity. There was no edema, dysphagia or albuminuria. The sudden intense dyspnea was evidently of cardiac origin but it was impossible to say whether it was due to acute dilatation, the terminal phase of an unsuspected endocarditis or to a pericardial effusion. The patient's strength was kept up with inhalation of oxygen and injection of ether and camphorated oil, and the next day pericardotomy was done under cocain local anesthesia; the benefit was prompt and marvelous. The incision in the skin was sutured without drainage but the incision in the pericardium was left untouched so that any further effusion might drain away of itself and possibly induce a kind of autoserotherapy.

78. **Postapoplectic Mania.**—Benon applies this term to a secondary mania developing as the patient is recovering from the phase of weakness of muscles and mind which follows a cerebrospinal hemorrhage. He reports two typical cases. The first patient was a woman of 82 and the muscular weakness lasted about two weeks after the apoplexy; then followed a week of increasing strength and liveliness, gradually amounting to actual mania with insomnia. This phase lasted for twenty or twenty-five days and gradually subsided, normal conditions then being restored except for persisting hemiparesis. The second patient was a man of 42, and the asthenia lasted three or four days and the mania ten or twelve, but there is still a little mental impairment. In three other cases the asthenia and mania recurred occasionally and the mental condition compelled institutional care in some. These patients were 42 and 43 years old and their affection merges into periodical depressive mania. Another patient had an attack of melancholia at 27 and a cerebral hemorrhage at 32, followed by recurring attacks of asthenia and suicidal depression but no actual mental impairment. In conclusion Benon reviews the literature on the subject of apoplexy in the history of the insane, and warns that institutional care is seldom necessary for persons developing this transient mania after a cerebral hemorrhage, as it generally subsides spontaneously in a few weeks or months. At the same time it may blend into periodic depressive mania. He also remarks that the alternations of gay excitement and depression in the insane are often merely phenomena indicating phases of asthenia or hypersthenia. He adds further that these phenomena should not be taken for signs of mental impairment.

Semaine Médicale, Paris

September 6, XXXI, No. 36, pp. 421-432

83 *Treatment of Placenta Prævia. R. De Bovis.

83. **Treatment of Placenta Prævia.**—De Bovis discusses whether operative treatment of placenta prævia is justified, reviewing international experiences in this line. The main point is to arrest the hemorrhage at any price, even at the price of an operation; then to deliver the woman without haste and without force. This latter principle does not seem to be always understood; because it is important to hasten to arrest the hemorrhage, it does not follow by any means, he insists, that delivery must be hastened. If an inflatable bag has been introduced or version done, the rule should be *Tendre et attendre*, that is gently press the bag or the breech of the fetus against the lower segment of the uterus, but wait patiently for spontaneous expulsion. This advice, he declares, formulated by all experienced obstetricians, should be printed in the heaviest type in the works on the practice of obstetrics; unfortunately there is generally not even a reference to such advice. It is rendered necessary by the extreme friability of the lower segment in these conditions. This also is what contra-indicates instrumental dilatation, which should be formally repudiated with placenta prævia. Even dilatation by the hand has entailed fatal laceration of the cervix as van Tussenbroek emphasized anew in 1908. De Bovis' own practice is to insist on absolute quiet, with rupture of the fetal membranes at need, and irrigation of the uterus with hot water, using 7 or 8 liters of water at least, at a temperature of 45 to 48 C. (113 to 118 F.), and recommencing the irrigation if necessary until the hemorrhage has been arrested. This method of treatment is tedious, but it does not infect the parturient like a tampon nor expose to mishaps, such as are liable with version and introduction of the inflatable bag, and as it often permits the bag of waters to be left undisturbed, it affords better chances for the life of the child. When merely tepid water is used or insufficient amounts of the hot water, the tendency to hemorrhage is promoted instead of checked. His experience with seventy cases in ten years without a fatality is a fine record, and although he has had two deaths recently, the patients brought in practically moribund, yet this is a mortality of only 2.7 per cent. in his total seventy-two cases of placenta prævia in the last eleven years.

Archiv für Kinderheilkunde, Stuttgart

LVI, Nos. 1-3, pp. 1-240. Last indexed July 22, p. 346

84 Case of Hematomyelia with Total Interruption of Conduction of Impulses in New-Born Infant Who Lived for Four Months. R. Lawatschek.
85 Research on Metabolism of Bottle-Fed Infants Given Albulactin K. Bornstein.

86 Case of Oppenheim's Congenital Myatonia with Necropsy. W. Archangelsky and A. Abrikosoff.
87 Temperature of Infants' Foods. (Physiologisches zur Frage der Warmemessung der trinkfertigen Säuglingsnahrung.) H. Roeder.
88 *Epidemic Poliomyelitis. (Casuistische Beiträge zur Klinik der Heine-Medinschen Krankheit.) G. Alsberg. (Ueber die spinale Kinderlähmung in der Provinz Schleswig-Holstein, 1909-1910.) M. Meyer.
89 Tuberculosis and Tuberculin Therapy in Infants and Young Children. (Nachtrag.) P. Röhmer.

88. **Epidemic Poliomyelitis in Northern Germany.**—During 1909 and 1910 there were three extensive foci in Germany at the same time as epidemics occurred in Austria and this country. Besides these large foci, a small epidemic of 132 cases in all occurred in the Schleswig-Holstein province in northern Germany, and Meyer here presents the results of careful research into conditions in this latter focus. The intermediation of healthy germ-carriers in propagating the disease was particularly evident in this epidemic, conditions in this respect being almost identical with those of epidemics of cerebrospinal meningitis. The symptomatology and prophylaxis are discussed in detail.

Archiv für klinische Chirurgie, Berlin

XCV, No. 1, pp. 743-1026. Last indexed Aug. 26 and Sept. 9, pp. 775 and 933

90 Appendicitis at Helsingfors, 1901-1908; 1,000 Cases. A. Kroglius.
91 *Influence on Tuberculous Process in Lungs by Impeding the Local Circulation. (Operative Lungenstauung und deren Einfluss auf die Tuberculose.) M. Tiegel.
92 Transplantation of Unpedunculated Flaps. (Ueber freie Transplantationen.) E. Lexer.
93 Operative Treatment of Fractures. G. F. v. Saar.
94 Congenital Sacral Tumors. A. Bergmann.
95 Surgery of the Liver. (Zur Chirurgie der Leber.) W. Wendel.
96 Removal of Accessory Stomach. (Beschreibung eines operativ entfernten congenitalen Nebenmagens.) W. Wendel.
97 An Angiofibroma of the Knee. (Eine echte Zottengeschwulst des Kniegelenks.) Reichel and C. Nauwerck.
98 Resection of Large Intestine. (Zur Technik der Dickdarmresection.) Reichel.
99 *Experimental Operations on the Lungs Under Intratracheal Insufflation. A. Schlesinger.
100 Operative Treatment of Obstipation from Congenital Malformations in the Sigmoid Flexure and Rectum. (Zur chirurgischen Behandlung der durch Megasigmoideum und Houston'sche Klappen verursachten Obstipation.) R. Goebell.
101 Intraperitoneal Rupture of the Bladder. (Harnblasenrupturen.) P. Herzen.
102 Healed Stab Wounds of the Heart. (Geheilte Stichverletzungen des Herzens.) F. Hasse.
103 *Operative Drainage of the Ventricles in Hydrocephalus. E. Payr.
104 *Research on the Thyroid in Exophthalmic Goiter and Hyperthyroidism. A. Kocher.
105 Stab Wound of the Pancreas Cured by Operation. (Isolierte Stichverletzungen des Pankreas durch Operation geheilt.) H. Fowelin.
106 Recovery After Stab Wound of Heart, Lungs and Liver. (Fall von Stich-Schnitt-Verletzung des Herzens, der beiden Lungen und der Leber.) T. M. Pikin.

91. **Operative Interference with Circulation in the Lung and Its Curative Influence on Tuberculous Processes.**—Practical experience has convinced Tiegel that partially obstructing the circulation in the lung does not materially alter its histologic structure and functioning but it has an unmistakable inhibiting influence on the development of tuberculosis. The method promises to apply also to tuberculous processes in the kidneys, and he is now experimenting in this line. His research was all done on rabbits; dogs are not susceptible enough to the inoculation of tubercle bacilli to answer for the experiments. He induced the stasis in the lung by ligating the pulmonary vein with a fine wire introduced through the fourth or fifth interspace under some differential-pressure procedure. He gives illustrations of the treated and untreated lung, instructively showing the tendency to heal of tuberculous processes as the lung grew tougher and harder under the influence of the stasis.

99. **Intratracheal Insufflation for Operations on the Lungs.**—Schlesinger has been operating on the lungs of dogs with the Meltzer and Auer intratracheal insufflation method, and declares that the simplicity of the method will render it superior to all others if the technic can be perfected a little farther. The main drawback is that it requires deep general anesthesia. According to his experiences severe injury may be inflicted if the anesthesia is not deep enough to relax the animal entirely. He does not consider it fully established yet that the insufflation never harms the respiratory organs. The influx of air into a yet unopened pleura is by no means an altogether harmless occurrence. The change of catheters during the operation might also prove dangerous in the clinic. The chief advantages of the method he enumerates as its simplicity, inexpensiveness, convenience and absolute prevention of aspiration of vomit, etc., while the surgeon can work on a stationary lung.

103. **Drainage of the Lateral Ventricles in Hydrocephalus.**—Payr states that in the last three years he has operated in fifteen cases of hydrocephalus by various technics aiming to open a connection between the ventricle and the venous circulation and thus drain away the excess of fluid. The youngest patient was 6 months, the oldest 20 years old. The hydrocephalus was completely cured in 50 per cent. of the eight patients who survived the first few months. The fatalities were due to too rapid evacuation of the fluid in two cases, to primary infection in one and secondary infection months later from a fistula in four others. The cases were naturally all of the severest types. In four he drained into the longitudinal sinus, in four into the jugular or facial vein; in seven into the subarachnoid or subdural space or into the loose connective tissue under the temporal muscle. He used for the drain a segment of calf artery for the portion within the brain, piecing this out below with a segment of the patient's own saphena run through under the skin. Necropsy in the fatal cases showed that the drain was constantly permeable. He regards the results on the whole as very encouraging, the failures being probably avoidable by improved technic.

104. **The Thyroid with Exophthalmic Goiter.**—Kocher reports the results of recent research on the physiology and chemistry of the thyroid gland as studied on the thyroids removed from thirty-five patients with exophthalmic goiter. His experience is now so extensive that from the clinical manifestations alone he is generally able to predict the exact histologic chemical conditions that will be found in the thyroid. They are usually of four different types and each corresponds to a special clinical type of the disease, as he shows by examples. Particularly interesting are the results of transplantation of scraps of a Basedow thyroid into persons suffering from deficient thyroid functioning. He has been doing work in this line—implanting the scraps in the bones—since 1898 and the benefit has been direct and permanent in certain cases. Desiccated Basedow thyroids have also been used in treatment of certain other patients and the result on the metabolism carefully studied. The effect seemed to be the same as when normal thyroids are administered—this testifies against the assumption of perverted thyroid functioning in exophthalmic goiter. The Basedow thyroids seemed to influence the metabolism more effectively the larger the iodin content of the gland. This was also observed in patients with myxedema given ordinary thyroid treatment. The proportion of iodin in the Basedow thyroid varies in wide limits, being always far above or far below normal range, both absolutely and relatively.

Berliner klinische Wochenschrift

September 11, XLVIII, No. 37, pp. 1669-1704

107 The Pineal Gland. (Die Zirbeldrüse.) A. Münzer.
108 *Neoplasms in Meckel's Diverticulum. L. Tschiknawerow.
109 *Rhizotomy for Tabetic Gastric Crises. (Förster'sche Operation wegen gastrischer Krisen bei Tabes.) W. Zinn.
110 Hemolysins of Serum of Cold-Blooded Animals. (Die Hämolysine der Kaltblüterseren.) H. Liefmann.
111 Technic for Infusion of Salvarsan. H. Mayer.
112 Telephone Accidents and Their Prevention. (Unfälle am Telephon und ihre Verhütung.) R. Foerster.
113 Infant Mortality in Prussia. (Die Säuglingssterblichkeit in den Provinzen, Regierungsbezirken und Kreisen des preussischen Staates 1910 und 1904.) R. Bahla.
114 Radium Emanations in Therapeutics. (Ueber Aufnahme und Ausscheidung der Radiumemanationen, Inhalation oder Trinkkur?) Eichholz.
115 *Erysipelas with Afebrile Course. E. v. Czyhlarz.

108. **Tumors in Meckel's Diverticulum.**—In the first of the three cases reported the diverticulum was the seat of a large sarcoma. Tschiknawerow has been able to find only one case like this on record; the patients were 62 and 72 years old. In the other cases the diverticulum was the seat of what seemed to be an accessory pancreas or of abnormal proliferation of the crypts of Lieberkuhn.

109. **Rhizotomy for Gastric Crises in Tabes.**—Zinn reports a case in a man of 43 who was relieved at one stroke of intolerable gastric crises by the operation. After five months they recurred in a brief and mild form, once or twice a week, but disappeared again during the seventh month. In the majority of the twenty-eight cases published to date there has been recurrence later of the crises in a mild form, but the operation has been of life-saving importance in a number of cases.

115. **Afebrile Erysipelas.**—Czyhlarz states that he has had twenty-nine afebrile cases among his 324 cases of erysipelas during the last year at Vienna, all in women.

Deutsche medizinische Wochenschrift, Berlin

September 7, XXXVI, No. 37, pp. 1633-1680

116 The Respiratory Metabolism in Infants. (Respiratorischer Stoffwechsel des Säuglings.) A. Schlossmann.
117 *The Cutaneous Tuberculin Reaction in Diagnosis and Prognosis. M. Wilms.
118 *Tuberculin Treatment of Surgical Tuberculosis. M. Wilms.
119 *The Intracutaneous Tuberculin Reaction in Children. (Zur Tuberkulosediagnostik im Kindesalter.) S. Engel.
120 Movement for Infant Welfare. (Die Aussichten der Säuglingsfürsorge.) M. Mohlfeld.
121 Infant Welfare Expositions. (Ueber Ausstellungen für Säuglingsfürsorge.) H. Brüning.
122 Early Diagnosis of Small-Pox, and Prophylaxis. (Zur Wirksamkeit des Impfschutzes und zur Diagnose der Variolois.) C. O. Risel.
123 Toxic Aqueous Extracts of Organs and Detoxicating Action of Fresh Serum. H. Dold.
124 Vaccine Therapy of Syphilitic Rabbits. C. Grouven.
125 Salvarsan in Late Syphilis and Lumbar Puncture Control. (Erfahrungen über Salvarsanbehandlung luetischer und metaluetischer Erkrankungen des Nervensystems unter Kontrolle durch die Lumbalpunktion.) H. Assmann. Commenced in No. 35.
126 The Wassermann Reaction in Nervous Disease. (Zur Kenntnis des Ausfalls der Wassermannschen Reaktion im Lumbalpunktat und Blutserum bei Erkrankungen des Nervensystems unter Berücksichtigung verschiedener Antigene.) H. Dembowski.
127 Unfavorable Outcome of Paraffin Treatment of Umbilical Hernia. (Zur Paraffinbehandlung von Nabelbrüchen.) M. Martens.
128 Case of Hematometra in Accessary Cornu of Uterus Bicornis. F. Sieber.

117 and 118. **Tuberculin Treatment in Surgical Tuberculosis.**—Wilms concludes from his clinical experience that the fungous forms of tuberculosis generally give a negative cutaneous tuberculin reaction. The cutaneous test therefore is no clue to diagnosis or prognosis unless the reaction is positive. On the other hand, with a fistulous or suppurating tuberculous process a negative reaction indicates a condition of cachexia. He has found tuberculin treatment especially advantageous in the forms of fungous tuberculosis giving a negative Pirquet reaction; the tuberculin treatment aids powerfully the natural tendency to heal. The slight reaction in such cases enables the dose to be rapidly increased. Combined treatment with tuberculin, roentotherapy, etc., is going to supersede surgical measures in treatment of tuberculosis, he thinks, more and more each year. The task is not only to remove the focus by an operation but to make the organism more resistant to reinfection. He is convinced that the cure of a tuberculous glandular process by conservative measures leaves the patient in better condition than when the lymphoma has been early removed. In the first case the body has been rendered strong by its struggle with the glandular tuberculosis and is thus more resistant against the unavoidable opportunities for new infection; while in the other case the body is equally sensitive as before to new infection and recurrence is almost inevitable unless tuberculin treatment comes to its assistance. Wilms remarks in conclusion that the scrofulous glandular swellings in youth may represent the period during which the organism is immunizing itself against the ubiquitous tuberculosis infection. Consequently he pleads for greater reserve in removing these protecting and battling organs. If an operation is indispensable on account of suppuration then the body should be reenforced by a course of tuberculin.

119. **Intracutaneous Tuberculin Test.**—Engel declares that this technic has numerous advantages over the other tuberculin tests; the technic is simple and the dose can be graduated while the reaction is easy to recognize and the inconvenience for the patient is minimal. He used the technic without knowledge of Mantoux' intradermal reaction. The latter uses 1 drop of 1 to 5,000 solution of tuberculin, but Engel uses 1 drop of a 1 to 1,000 solution of old tuberculin and, if no reaction follows, increases the strength to 1 per cent., 10 per cent. and 100 per cent. in some cases, some of the patients finally reacting to the latter dose. The subcutaneous tuberculin test fails with febrile patients, and the cutaneous with patients whose susceptibility to tuberculin is reduced, but the intracutaneous method succeeds when these others fail. When there is a morbid dread of tuberculosis, the intracutaneous reaction enables the last trace of uneasiness to be dispelled with mathematical certainty if there is no reaction to the stronger concentration. He cites a number of instructive cases to show the superiority of this technic in various puzzling conditions, as in the case of a cachectic child with meningitis in which this test positively excluded tuberculosis.

Jahrbuch für Kinderheilkunde, Berlin

July, LXXIV, No. 1, pp. 1-122

129 *Prolapse of the Urethra in Little Girls. (Ueber Harnröhrenvorfall bei kleinen Mädchen.) H. Brüning. Concluded in No. 2.
130 Metabolism of a Bottle-Fed Infant. (Der Gesamtstoffwechsel eines künstlichgenährten Säuglings mit Einschluss des respiratorischen Stoffwechsels.) A. Niemann. Continued.
131 Head's Zones in Beginning Tuberculosis in Children. C. T. Noeggerath and V. Salle.

August, No. 2, pp. 123-236

132 Causes of the Breaking Down of Hypertrophied Hearts. (Kasuistischer Beitrag zur Lehre von den Ursachen des Erlahmens hypertrophischer Herzens.) K. Frenkel.
133 *Prophylactic Immunization Through Nostrils Against Diphtheria. (Ueber die aktive antidiphtheritische Immunisation der Kinder nach dem Prinzip von S. K. Dzerjgowsky.) N. Blumenau.
134 *Possibility of Cure of Tuberculous Meningitis. W. G. Archangelsky.
135 Alliteration as Physiologic Form of Child's First Efforts to Talk. (Anteponierende Alliteration als physiologische Form des kindlichen Stammelns.) W. Stoeltzner.
136 Scarlet Fever and Chronic Nephritis. Stroink.

129. **Prolapse of Urethra in Little Girls.**—Brüning reports a case of the sudden prolapse of the entire mucous lining of the urethra, without apparent cause, in a healthy girl of 8. Study of the literature on this subject shows that this occurrence is observed in girls only in early infancy and beween the ages of 8 and 12. Hemorrhage accompanied the prolapse in 41 per cent. of the seventy-six cases he has found and tabulated. In a large proportion of the cases the prolapse was not recognized and dire results followed treatment based on a mistaken diagnosis. The child should be kept in bed and astringent and cauterizing measures should be applied after reduction. If these fail or if the prolapse is total, he advises resection of the sagging portion and suture. The operative loss of blood has always been slight.

133. **Active Immunization in Prophylaxis of Diphtheria.**—Blumenau states that 348 children with measles or scarlet fever were given prophylactic injections of 500 or 600 antitoxin units as soon as they entered the contagious disease ward, and the injection was repeated each two weeks afterward. Nineteen of the children, that is, 5.5 per cent. developed diphtheria later, and signs of serum sickness were evident in 18.4 per cent. As these results were not considered satisfactory, Dzerjgowsky devised a method of inducing active immunization which seems to be promising. A wad of cotton impregnated with diphtheria toxin was introduced into each nostril alternately for an hour each day for ten days. In experiments on adults and on seventeen children it was found that there was marked production of antitoxin by this method. Experimental research indicates that the immunity thus acquired may last for months and years. The method may perhaps be advantageously combined with passive immunization by injection of antitoxin when rapid action is desired. The diphtheria toxin was diluted with twice the amount of salt solution in a later group of eleven children to avoid by-effects, and the tampon was left in the nose only half an hour every third day. There was no injury of the mucosa with this milder technic, while the antibody production was fully as marked as in the first group.

134. **Curability of Tuberculous Meningitis.**—Archangelsky reviews the five cases on record of recovery from tuberculous meningitis, and reports a case from his own experience. In

all the tubercle bacilli had been found in the cerebrospinal fluid or the biologic reactions had been positive. Repeated lumbar puncture had been one of the factors in the cure in his case, supplemented later by sodium iodid. These six cases are the only ones of which he knows in the last ten years.

Medizinische Klinik, Berlin

September 10, VII, No. 37, pp. 1509-1554

137 Diarrhea of Gastric Origin. A. Albu.
138 *Physical Treatment of Rachitis. F. Kirchberg.
139 *Momburg's Belt Constriction in Obstetrics. (Erfahrungen mit der Momburgschen Blutleere in der Geburtshilfe.) H. Fuchs.
140 Catheterization of the Ureters. (Ueber den diagnostischen und therapeutischen Wert des Ureterenkatheterismus.) G. Theien.
141 Salvarsan in Third Phase of Syphilis. J. Fabry and E. Kretzmer.
142 Iodin Fever. (Zwei Fälle von Jodfieber.) A. Solmsen.
143 Neurasthenia in the Young. G. Major.
144 Elimination of Iodin in Health. E. Herzfeld and M. Haupt.

138. **Physical Treatment of Rachitis.**—Kirchberg is chief of the Berlin massage institute, and he reports remarkable benefit from physical therapy in the treatment of rachitis, especially stimulation of peristalsis by massage of the abdomen which also has a favorable influence on the musculature of the abdomen and diaphragm. Stimulation of the skin by rubbing through a rough towel, air baths and massage of the skin to promote the circulation, all cooperate in notable improvement in the general health. He warns that actual scoliosis never retrogresses spontaneously, and urges the necessity for watching over infants to prevent its development. Lange has insisted that the foundation for curvature of the spine is frequently laid before the child is 1 year old by the way in which it is carried in the arms. In the florid stage of rachitic scoliosis passive movements and correction should be supplemented by breathing exercises; these are especially useful in preventing the fixation of the spine in scoliosis. One of Kirchberg's exercises has the child lie prone on a hard bench or bed and breathe deep with a long pause between inspiration and expiration, while the masseuse presses one shoulder and the pelvis of the child down firmly, so that the ribs have to be lifted upward and backward and thus induce vigorous movements in the joints of the spine. As a rule the exercises should be done with the trunk exposed, in front of a mirror, several times a day, up to half an hour at a time. He has the children breathe deeply as each of the gymnastic exercises is done.

139. **Momburg's Belt Constriction in Obstetrics.**—Fuchs reports two cases in which the remarkable advantages of this procedure to arrest obstetric hemorrhage were clearly evident. The constriction not only avoided all danger of excessive loss of blood but it also stimulated the uterus to healthy contractions. In his third case, however, the constriction had such an injurious action on the heart that it gradually failed and the patient died a few hours after the belt had been removed. The trouble in this case was a hydatidiform mole, so large that it required the constricting tube to be applied unusually high, above the level of the umbilicus. He draws the lesson from this case that this method is contra-indicated, especially raising the pelvis therewith, if the heart has been debilitated by considerable loss of blood. Also that the release of the constriction is the critical part of the procedure. On the whole, he does not think that this belt constriction is destined to extensive application in gynecology or in obstetrics except for the cases in which the belt can be applied as the first and most promising measure to arrest severe hemorrhage, especially from lacerations.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 3, pp. 343-542. Last indexed July 22, p. 349

145 Induced Shriveling and Induration of the Lung by Ligation of Branches of the Pulmonary Artery. (Die künstliche Erzeugung von Lungenschrumpfung durch Unterbindung von Aesten der Pulmonalarterie.) O. Bruns and F. Sauerbruch.
146 *Rare Chronic Form of Tuberculous Meningitis. Strasmann.
147 *Sequestration Anemia and Its Influence on Hemorrhage at Operations and Its Effect on the Organism. (Die Aufspeicherung von Blut in den Extremitäten, ihr Einfluss auf die Blutung bei Operationen und ihre Wirkung auf den Organismus.) H. Zoeppritz.
148 Danger from Tardy Cumulation of Injurious Influences After Chloroform General Anesthesia. (Ueber Spätwirkungen der Chloroformnarkose.) R. Stierlin.
149 Research on the Effect of Measures to Raise and Lower the Local Temperature. (Ergebnisse von thermoelektrischen Messungen über die örtliche Beeinflussung der Hautwärme durch unsere Wärme- und Kältemittel und über die Tiefenwirkung dieser physikalischen Massnahmen am lebenden Körper.) H. Iselin.
150 Motor Function of the Pylorus After Resection of the Stomach. (Die motorische Funktion des Sphinkter pylori und des Antrum pylori beim Hunde nach der queren Durchtrennung des Magens.) M. Kirschner.
151 Cholelithiasis and Suppurative Pylephlebitis Under the Clinical Picture of Healing Abscesses in the Liver. P. Heinrichsdorff.
152 *Exclusion of Ascending Colon for Certain Cases of Obstipation with So-Called Chronic Appendicitis. E. Stierlin.
153 *Streptothrix Mycosis of the Lung. E. Lick.

146. **Chronic Tuberculous Meningitis.**—Strasmann reports a case of meningitis in a man of 38 which had run an extremely slow and protracted course, presenting symptoms apparently typical of the syndrome induced by a tumor in the hypophysis. On this assumption an exploratory trephining operation was done seeking to relieve the intolerable headaches, but no tumor was found and the patient died twelve days thereafter, about three years after the first symptoms of trouble. Necropsy disclosed a chronic diffuse tuberculous meningitis involving especially the chiasm and optic nerve. He publishes the case in detail to warn others against such pseudotumor cases. Hildebrand operated in a similar case and the tuberculous process healed afterward. In Strasmann's case the man had had for eight years a skin affection resembling lupus erythematodes, and he gradually became very obese, languid and somnolent. During the last year there had been recurring, intense headache and constipation, the papillæ were blanched and the somnolency kept increasing, and vomiting and dizziness occurred at times. The Wassermann reaction was negative and the headaches were not of the nocturnal type and there were no signs of inherited or acquired syphilis. Further testimony against syphilis was the chronic progressive course of the symptoms without any marked fluctuations and without any tendency to paralysis or irritation of all the basal cranial nerves. When the microscope revealed tuberculosis it was a great surprise, as there had been no fever nor high pulse-rate, no rigidity or pain at the back of the neck and none of the usual symptoms of trouble at the base of the brain, while the patient had kept well nourished throughout the three years' course of the affection.

147. **Shutting Off Part of Circulating Blood and Effects of the Procedure.**—Zoeppritz writes from the surgical clinic at Kiel in charge of Anschütz to report the results of sequestration of the blood in the extremities as a preliminary to operations. In 23.2 per cent. of the 112 cases the bleeding was exceptionally slight, in 30.3 per cent. slight, and in 46.5 per cent. no effect on the operative hemorrhages could be detected. He classifies the operations according to their site and the amount of hemorrhage. The influence of the sequestration in reducing a tendency to bleeding was most marked in operations on the spine, then, in turn on the head, neck, chest and abdomen. A favorable influence on the course of the anesthesia was evident in a few but not in all cases. There was no tendency to after-hemorrhage in any instance, but symptoms were observed in a few cases suggesting that the method had better be regarded as contra-indicated in case of pressure on the brain, arteriosclerosis, blood-diseases and varicose veins, on account of danger of thrombosis, but this need not be feared with normal vessels. By applying constriction to the roots of the limbs, it is possible thus to sequestrate a fourth of the total amount of blood (1,300 to 1,500 c.c.). The body reacts to this with a lower blood-pressure and acceleration of pulse and respiration. This sequestration method is particularly advantageous in operations on the brain and spine and when there is reason to dread a parenchymatous hemorrhage. He followed Dawbarn's technic at first but later modified it a little, applying the constriction to both arms and thighs from forty-five to sixty minutes before the operation, and drawing the elastic bands tight enough to arrest the venous blood circulation completely, overcoming the diastolic blood-pressure but respecting the arterial circulation as much as possible. In Bier's constriction hyperemia the constriction has to be only equal to or just

below the diastolic blood-pressure, while Klapp's technic shuts off both the arterial and venous circulation. Zoeppritz' long article discusses the subject from every point of view, including the results of experiments to determine the actual amount of blood that can be thus stored up in the extremities. By-effects were observed only in patients with abnormally high blood-pressure or arteriosclerosis or some blood disease or varicose veins, and these conditions contra-indicate the method principally on account of the danger of inducing anemia in the brain. This applies also to infectious diseases, intoxications, etc., inducing a tendency to vasomotor paralysis.

152. **Operative Treatment of Obstipation.**—Stierlin refers to the cases in which the feces accumulate and stagnate in the cecum and ascending colon and induce the symptoms ascribed to chronic appendicitis, impairing the general health and refractory to all internal measures, and in which roentography locates the stagnation at these points instead of at the sigmoid or other flexures. He excludes the ascending colon by implanting the lower end of the ileum in the transverse colon, resecting the ascending colon or not according to the case, and has done this in ten cases with good end-results in nine; the outcome in the tenth case is not known.

153. **Streptothrix Mycosis of the Lung.**—The case reported by Liek is, he thinks, the first on record in which a serious affection of this kind was arrested and cured by resection of the gangrenous focus. His patient was a man of 44 and the operation was done about five months after the first symptoms had been observed.

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July, XXXIV, No. 1, pp. 1-132

154 The Mammary Theory of Eclampsia. (Das Martyrium der voraussetzungslosen Wissenschaft.) H. Sellheim.
155 Urogenital Tuberculosis. (Ergebnis der Debatte der XIV Gynäkologenkongresses über die Urogenitaltuberkulose.) B. Krönig.
156 *Symptomatology and Treatment of Retroflexion of Pregnant Uterus. M. Graefe.
157 Glycogen in Human Placenta. K. Flesch.
158 Simplified, More Conservative Technic for Extraperitoneal Cesarean Section. H. Sellheim.
159 Serotherapy of Puerperal Sepsis. G. Bohnstedt.

August, No. 2, pp. 133-273

160 What the Peritoneum Will Stand and What It Will Not Stand. (Ueber die peritoneale Wundbehandlung.) E. Bumm.
161 Ciliated and Secreting Epithelium in the Uterus. (Flimmerndes und sezernierendes Uterusepithel.) L. Mandl.
162 Roentotherapy in Gynecology. B. Kelen.
163 Malignant Ovarian Dermoids. A. Wolff.
164 Obstetrics and Infant Mortality. (Geburtshülfe und Säuglingssterlichkeit.) C. Keller.
165 Treatment of Stump of Umbilical Cord. (Neue Beiträge zur Behandlung des Nabelschnurrestes der Neugeborenen.) F. Petermöller.
166 The Cancer-Statistics Question. E. Aulhorn.

156. **Treatment of Retroflexion of Pregnant Uterus.**—Graefe has investigated conditions in regard to the disturbances from this cause in 200 women and found that sixty-one had experienced no local discomfort from this displacement of the uterus. The pregnancy was in the second or fourth month and in two of these patients the uterus was very large, owing to the additional presence of a myoma. These sixty one cases show that retroflexion does not necessarily cause pain or discomfort even when the uterus is unusually large. One patient in this group had had severe sacral pains but after cure of a coincident suppurative catarrh of the cervix and large erosion the pains vanished permanently, although the retroflexion persisted uncorrected. Only seventeen of the total 200 complained of a sensation of downward pressure and only seven of pressure on the rectum. In six of these seven this sensation persisted after the uterus had been restored to place, suggesting that it was purely a nervous phenomenon. None of the patients complained of disturbances in defecation. Only twenty-five of the total 200 complained of traction on the bladder and tenesmus, and these were eight women in the second month, twelve in the third, four in the fourth and one in the fifth month of pregnancy, while thirty-eight other women from two to six months pregnant had no bladder disturbances, not even the two with incarcerated retroflexion. One patient complained of pain radiating to the leg, but it persisted unmodified after the uterus had been restored to place. As a rule disturbances were noted only in women inclined to nervousness or hysteria. Abortion occurred in only thirty-one of the 200 cases, the interval after correction ranging from the first days to four months, and in two of these cases the abortion was criminally induced, while the other women had severe venereal disease. Graefe thinks that the retroflexion alone does not induce abortion but that it has a favoring influence when the uterus is already pathologic. Severe pain and hemorrhage, even slight, indicate at once correction of the retroflexion, as also incarceration of the retroflexed uterus, and in any event he thinks that an attempt should be made to correct the displacement as labor pains and hemorrhage may occur at any moment. A point of great importance in the correction is to keep the bladder empty. Correction succeeds sometimes only with the patient in the knee-elbow position. In some cases the uterus rights itself in a day if the patient lies on her side, or, better yet, in the ventral decubitus in bed. In one incarcerated case the uterus righted itself in six hours after an inflatable bag had been introduced into the vagina and filled with 400 gm. of water. If the adhesions are tough and the patient suffering and all other means fail, a laparotomy becomes necessary although he had to resort to it only in one case. In two cases Goldberg's maneuver accomplished the purpose (described in THE JOURNAL, Jan. 21, 1911, page 231).

Münchener medizinische Wochenschrift

September 5, LVIII, No. 36, pp. 1897-1944

167 Combined Treatment of Cancer. (Therapie der Krebse.) V. Czerny. (Wert der Kombination von Röntgenstrahlen- und Hochfrequenzbehandlung bei malignen Tumoren.) R. Werner and A. Caan.
168 *Etiology of Hypertrophy of the Prostate and Indirect Roentotherapy. Wilms and H. L. Posner.
169 Mechanism of Kidney Secretion. (Zur Mechanik der Nierensekretion.) C. Jacobi.
170 *Constipation with Chronic Appendicitis. (Ueber die Obstipation vom Aszendenstypus.) E. Stierlin.
171 Epidemic Meningitis. (Klinische Beobachtungen bei Genickstarre.) F. Mann.
172 The Pathology of Infants Fed on Artificial Foods Containing Starch. (Beitrag zur Pathologie des Mehlnährschadens der Säuglinge.) B. Salge.
173 *Pseudofever in Children. G. Avellis.
174 Objective Determination of Pathologic Cytosis in Cerebrospinal Fluid. W. Geissler.
175 Determination of Proportion of Epinephrin in Blood. P. Trendelenburg.
176 Suturing Machine to Use After Resection of Stomach and Intestines. (Nähapparat für Magen- und Darmresektionen.) F. Hahn.
177 *Neurorecurrences After Salvarsan. (Ueber Neurorezidive nach Salvarsan, speziell Polyneuritis.) E. Trömner and E. Delbanco. Commenced in No. 35.

168. **Influencing of Hypertrophy of the Prostate by Roentgen Exposures of the Testicles.**—Wilms and Posner remark that the gynecologists' discovery that myomas in the uterus can be made to retrogress by exposing the ovaries to the Roentgen rays has suggested that the enlargement of the prostate may be analogous to the development of a myoma, and that it can be indirectly influenced in the same way. The gynecologic experiences suggest that the growth of the myomas is stimulated by some substance generated in the ovaries, and that by reducing the vital action of the ovaries this substance is no longer produced and the myoma withers away. The condition in a hypertrophied prostate is remarkably like that in a myomatous tumor. Zuckerkandl has recently called attention to his finding intact tracts in the prostate when parts of it were much hypertrophied, and that the nodular new growth is essentially in the upper part of the prostate, while the prostate, like the uterus, attains its development with puberty. These and other facts confirm the assumption of a hormone generated in the testicles as responsible for the adenomyomatous nodules developing in the prostate. They suggest that the enlarged prostate can be made to shrivel away to approximately normal size by inducing the retrogression of the testicles, and this can be done in the simplest and most harmless manner by exposing them to the Roentgen rays, as he found in the one case in which he has applied the method to date. The patient was a healthy farmer of 69 and the prostate had gradually become enlarged until retention was complete. The testicles were then exposed to a three-fourths Sabouraud dose of Roentgen rays and four days later there was some spontaneous emission of urine.

By the fifth day the catheter was no longer necessary and micturition soon became entirely normal and the prostate perceptibly smaller, but there was still 70 c.c. of residual urine. A second similar exposure was then made three weeks after the first, since which time conditions in regard to urination have been quite normal and the patient has been in continuously good health.

170. See Abstract 152 above.

173. **Pseudofever in Children.**—Avellis has encountered a number of children apparently healthy but with a rectal temperature above normal for weeks or months at a time. After exclusion of all other causes he compared the rectal with the axilla temperature, and found the latter constantly normal. The conclusion seems inevitable that some local process, possibly merely the vital processes of the intestinal bacteria, may be accepted as the source of this local temperature. In some cases he was able to reduce the temperature to normal by putting the child on a yoghurt or clabber diet; this evidently modified the intestinal flora. He warns that the temperature in these cases is not an evidence of fever and that the children should not be kept in bed. He urges physicians to be on the lookout for this pseudofever and not be misled to ascribe it to tuberculosis, etc.

177. **Neurorecurrences After Salvarsan Treatment, Especially Polyneuritis.**—Trömner and Delbanco report three cases of severe manifestations of so-called neurorecurrence in syphilities under salvarsan treatment. The first patient was a young man given two intravenous injections of salvarsan in the fourth month after infection, and they were followed two months later by multiple paralysis of cranial nerves. There was total deafness on the left side, with the characteristics of a true syphilitic affection of the auditory nerve on this side, while on the right side the symptoms indicated a toxic injury of the right auditory nerve. In the second case a woman of 28 developed weakness and paralysis in the domains of the first, sixth, seventh, ninth and eleventh cranial nerves two months after an intragluteal injection of salvarsan, and as these phenomena subsided signs of mild polyneuritis became evident. There has been improvement during the six months since, but certain symptoms still indicate meningitic irritation. The case was complicated by a tendency to hysteria. The peripheral polyneuritis in this case and in a third and more severe case are, they think, the first syndromes of the kind observed under salvarsan. It was extremely severe in the third case, developing two months after the injection; the normal pupil reaction and lack of sensory disturbances spoke against tabes. The muscles of the left leg give the reaction of degeneration to electric tests and the reaction was sluggish in the other leg. The patient was a machinist of 33 with no history of syphilis but a positive Wassermann reaction. He suddenly developed crossed hemiparaplegia which gradually improved under mercurial treatment so that he was able to get about on crutches. At his request then an intramuscular injection of 0.3 gm. salvarsan was made. Eight days later the signs of peripheral polyneuritis became evident and persisted with little improvement during the three months since, while only the Babinski and Oppenheim reactions were left of the preceding Brown-Séquard syndrome. Trömner differs from Delbanco in his opinion in regard to the mechanism of these neurorecurrences. He believes that salvarsan is liable to display a direct toxic action with or without the presence of syphilis, and an indirect specific action in syphilis, either by inducing an early inflammatory reaction or by reactivating syphilitic processes during a certain critical period lasting about two months after the injection. That these recurring manifestations are generally in the form of multiple neuritic or perineuritic paralyses of the cranial or, more rarely, of the peripheral nerves is due in part to a special affinity of the drug for nerve tissue. A direct neurotoxic action should be assumed only in the rare cases in which the mischief develops early and runs a malignant course.

Delbanco on the other hand ascribes the neurorecurrences to a direct toxic action on the nerve, and consequently decries the idea of treating them with more of the drug or even with mercury. He wonders what will be the ultimate fate of an auditory nerve, for instance, after toxic injury of this kind, then suffering later from the influence of the syphilis which in turn is arrested by mercury. Will the nerve after these varied experiences be more exposed to injuries later or not? He discusses in detail the literature that has appeared on the subject of neurorecurrences in syphilis since salvarsan has been introduced, and cites from a personal communication from Ehrlich, who was consulted in regard to the polyneuritis cases before the report was published. Delbanco insists that only those cases in which salvarsan has been given alone, without mercury, are strictly demonstrative and suitable for statistical comparison. He adds that the explanation advanced for the neurorecurrences in the auditory nerve, namely, that the natural reaction which otherwise does no harm, causes disturbance here, as the nerve is shut in tight in a narrow bony passage, cannot apply to his cases of peripheral polyneuritis. He adds that the future will teach whether salvarsan exerts an appreciable neurotropic action in non-syphilitics. The Wassermann reaction is, he thinks, merely a sign that the organism has been in contact with the syphilis germ, and when the diagnosis of syphilis is otherwise clear he does not allow his treatment of syphilis to be guided by the absence or presence of the reaction. The question as to why the salvarsan exerts a toxic action only on certain nerves and not on others cannot be answered any more than why other poisons, especially lead, act on certain groups of muscles and not on others. He admits, however, that the recurrences in syphilis have been subjected to far closer scrutiny since the introduction of salvarsan, but he protests most decidedly against the statement recently made by Benario that in 1 per cent. of all cases of syphilis there is recurrence of symptoms in the large cranial nerves. This cannot be true of cases in which mercurial treatment has been systematically applied.

Therapeutische Monatshefte, Berlin

September, XXV, No. 9, pp. 525-580

178 *Nervous Vomiting in Infants. (Wesen und die Behandlung des nervösen Erbrechens im Säuglingsalter.) F. Rott.
179 Cumulative Action of Digitalis. C. E. Focke.
180 Conservative Treatment of Acute Otitis Media. (Konservative Behandlung der akuten Mittelohrentzündung.) H. Obermüller.
181 *Operative Treatment of Prolapse of Rectum in Children. (Mastdarmvorfall bei Kindern.) H. Sack.

178. **Nervous Vomiting in Infants.**—Rott refers to the vomiting which resists correction of the diet and for which no cause can be discovered. In this form the vomiting generally starts during the first weeks of the child's life, and it may simulate the clinical picture of pyloric spasm except for the lack of peristalsis in the stomach and of the palpable tumor at the pylorus. He has encountered six cases of this kind during the last two years; in three the vomiting was of an explosive character, immediately after the meal or an hour or so later. Only one of the six infants had reached the fourth month; two were breast-fed and all showed signs of nervous irritability, the children being remarkably restless before the vomiting came on, and the muscles were tense. In four cases an inherited nervous taint was evident. The facts observed suggested that the trouble was a hypersensitive condition of the stomach mucosa due to a congenital nervous irritability. Treatment to reduce this irritability proved remarkably successful in his cases; he gave 10 c.c. of a 0.01 per cent. solution of cocain, that is, 1 mg. of cocain, five times a day, ten minutes before feeding. In three cases the tendency to vomiting completely disappeared within three days; in one case the vomiting recurred on one day after an interval of four days. He gave the cocain for six days regardless of whether the vomiting had ceased, and no by-effects were observed suggesting intoxication, although all the children quieted down. The attempts of others with cocain have failed because it was given with the meals, too late to suppress the irritation from the food. The children have all developed well since, except that some are still unduly nervous. In two other cases the vomiting was not influenced by the cocain; it was never of a spastic character, the stomach content flowing without effort out of the mouth, once a day

or after each meal. The abdomen and muscles were generally flabby and the vomiting seemed to be due to atony, on which the cocain had no effect. One child died; the other grew stronger as the vomiting gradually subsided in the course of a few weeks, but the child developed a tendency to spasmophilia. In two cases of pyloric spasm the cocain was given in the same way and the vomiting became less frequent, the stools normal and the children less restless. These results encourage further trials of cocain with pyloric spasm, possibly combined with other sedatives.

181. **Operative Treatment of Prolapse of the Rectum in Children.**—Sack reviews the nine different methods on record for correction of rectal prolapse in children, with the experiences reported to date. All confirm the superior advantages of the latest technic, that published by Sick in 1909, tamponing the retrorectal space. Ritter has modified it somewhat, and Sack reports the details of two cases in which it has been applied with unusually favorable results, the little patients being able to be up and about at once, defecation not being interfered with and reexamination seven and fourteen months later confirming the advantages of this simple and harmless technic. The only incision is made from the tip of the coccyx to the edge of the sphincter. The loose connective tissue behind the rectum is then separated with a blunt instrument up to the promontory, thus detaching the rear wall of the rectum, and a passage is made entirely around its lower segment. A broad strip of gauze is then worked through this passage to encircle the lower part of the rectum and the ends are brought out, crossed and fastened to the skin above the coccyx. A second gauze strip is pushed up between the rear wall of the rectum and the sacrum. The incision is then sutured except at the top where the ends of the gauze emerge. By this means the rectum is enticed to become broadly adherent to the surrounding tissue and the tendency to prolapse is cured. In both his cases the tampons could be removed the fifth day while the child was allowed to defecate normally from the first, the strip encircling the lower part of the rectum effectually preventing any tendency to prolapse.

Wiener klinische Wochenschrift, Vienna

September 7, XXIV, No. 36, pp. 1267-1294

182 *The Conjunctival Tuberculin Test in Urology. R. Paschkis and F. Necker.
183 Immediate Benefit from Splenectomy in Acquired Hemolytic Jaundice with Enlarged Spleen, Hayem-Widal Type. F. Micheli.
184 Traumatic Pseudomeningoceles. J. Winkler.
185 Prostatic Adenoma Removed by Aspiration During Lithotripsy. K. Frank.

182. **The Conjunctival Tuberculin Reaction in Urology.**—Paschkis and Necker state that a further series of 125 urologic cases confirms the conclusions of their first series of forty-two cases, reported in 1908, to the effect that the ophthalmo-reaction is one of the numerous diagnostic measures which are instructive in the puzzling cases. They commend the simple technic, declaring that in their experience to date it has been harmless. A negative conjunctival reaction with evident tuberculosis of one kidney, even although its mate is apparently functioning normally, is a bad sign. In their four cases of this kind the patients all died in a few months.

Zeitschrift für Kinderheilkunde, Berlin

July, III, No. 1, pp. 1-113

186 *The Electric Reaction with Spasmophilia. E. Reiss.
187 Indicanuria in the New-Born. A. v. Reuss.
188 The Streptococci in Scarlet Fever. (Zur Kenntnis der Streptokokken bei Scharlach.) F. Schleissner.
189 Adrenal Functioning in Infants. (Die Nebennierenfunktion im Säuglingsalter.) S. Samelson.
190 Attenuation of Scarlet Fever by Prophylactic Injections of Serum. (Die Konkurrenz der Antigen in Klinik und Experiment.) E. Benjamin and O. Witzinger.

August, No. 2, pp. 114-189

191 *Stagnation of Heat and Salt Fever. (Wärmestauung und Salzfieber.) P. Heim and K. John.
192 Bacteriology of Whooping-Cough. (Der Bordet-Gengousche Bacillus in der Aetiologie des Keuchhustens.) G. Finizio.
193 The Normal Fluctuations in Temperature in Children. (Zur Beurteilung der Temperaturschwankungen beim Kinde.) A. Wolff.
194 *The Cerebrospinal Fluid in Tuberculous and Serous Meningitis. (Ergebnisse der Permanganattitration des Liquor cerebrospinalis.) E. Mayerhofer and R. Neubauer.

186. **Lime as Factor in Electric Reaction in Spasmophilia.**—Reiss reports experimental and clinical experiences which sustain the assumption that extreme neuromuscular excitability in children is due in part to lack of normal proportions of lime in the tissues. He concludes further that lime is the only one among the cations indispensable for the human organism investigated to date, which influences the electric reactions by its varying concentration. At the same time there must be other factors involved, as the varying lime content does not explain all the phenomena observed, although the theory of a deficiency in lime as the direct cause of the spasmophilic syndrome explains several essential features of it.

191. **Stagnation of Heat and Salt Fever.**—Heim and John report further research on alimentary fever in infants and especially the fever that follows intake of salt. They have become convinced that physical factors predominate in it, the salt causing retention of water and thus interfering with the normal throwing off of heat by means of sweating and urinating. The salt induces retention of water and this in turn induces stagnation of heat.

194. **The Cerebrospinal Fluid in Serous and Tuberculous Meningitis.**—Mayerhofer and Neubauer commend the potassium permanganate method of examination of the cerebrospinal fluid as a rapid and reliable method of investigating the metabolic processes occurring in the central nervous system. The findings are not only instructive for the diagnosis, but throw light on the prognosis. They have examined the fluid in 118 cases, with 182 punctures and 518 separate tests of the fluid. The children had meningitis of various origins, convulsions or poliomyelitis. In all this material the findings in tuberculous meningitis were constantly increased, the increase ranging from 2 to 30 or 37.3. Such high figures were obtained otherwise only in tuberculous pleurisy or peritonitis. At the same time they warn that this alone is not sufficient grounds for assuming a tuberculous meningitis unless confirmed by repeated reexaminations. With meningeal symptoms of other origin, the test shows figures under 2 as a rule, and this low figure persists even when the naked-eye aspect of the fluid indicates suppuration. The last series of 100 children examined are reported in detail with the necropsy findings in fifty-two of the fifty-five meningitis cases, and the various methods of examining the cerebrospinal fluid are discussed and the advantages of permanganate titration are extolled. The technic for this test was described in THE JOURNAL, June 11, 1910, p. 2009.

Zeitschrift für klinische Medizin, Berlin

LXXIII, Nos. 1-2, pp. 1-168. Last indexed June 17, p. 1865

195 Sino-Auricular Heart-Block. (Reizleitungsstörungen zwischen der Bildungsstätte der Ursprungsreize der Herzkontraktionen im Sinus der oberen Hohlvene und dem Vorhof.) G. Riebold.
196 Research on Interaction of Organs with an Internal Secretion. (Untersuchungen über das Vorkommen von "Vagotonus und Sympathikotonus.") K. Petren and I. Thorling.
197 Stomach Functioning in Health. (Physiologische Beiträge zur Funktion des Magens.) Külbs.
198 The Horse Power of the Pulse. (Neuren Methoden der dynamischen Pulsdiagnostik.) T. Christen.
199 Influence on Metabolism of Natural and Artificial Arsenical Waters. (Einfluss natürlicher Arsenwässer und künstlicher Arsenlösungen auf den Stoffwechsel.) S. Croce.
200 Behavior of Cardiovascular System in Two Cases of Bradycardia. (Verhalten des Herzgefasssystems in zwei Fällen von Bradykardie nebst Beiträgen zur neueren Untersuchungsmethodik, Physiologie und Pathologie des Gefässsystems.) E. Münzer.
201 Functional Tests of the Liver. I. (Verhalten des Aminosäuren- und Peptid-N im Harn.) F. Falk and P. Saxl.
202 Medicine and Folk Lore in Russia. (Volksmedizin und ärztliche Kunst in Russland.) V. Salle.

Zentralblatt für Chirurgie, Leipsic

September 9, XXXVIII, No. 36, pp. 1209-1240

203 *Plastic Operation on Esophagus with Aid of the Transverse Colon. (Osophagoplastik mit Hilfe des Querkolon.) G. Kelling.
204 Operative Treatment of Tumors in Nasopharynx. (Nasen-Rachengeschwülste.) Z. Slawinski.

203. **Transverse Colon for Plastic Operation on the Esophagus.**—Kelling attempted to relieve a woman of 45 with an inoperable carcinoma in the esophagus by making a new segment out of a strip resected from the transverse colon, suturing one end in the anterior wall of the stomach and connect-

ing the other end with the esophagus above the tumor by an intervening tube formed of the skin of the chest, with a T drain to drain away the saliva. The results of the operation were excellent but the patient succumbed to the effects of the cancer in two weeks. The case teaches that the transverse colon is well adapted for the purpose, and, secondly, that operations of this kind in cases of cancer of the esophagus, seldom offer prospect of success, owing to the ulceration and stagnation in the tumor and the intense reflex salivation. The absorption of toxins from the cancer has an unfavorable action on the secretions of the pancreas, etc., so that the food is not properly assimilated. The results of plastic operations with cancer of the esophagus, therefore, cannot be compared with those with pyloric cancer.

Zentralblatt für Gynäkologie, Leipsic

September 9, XXXV, No. 36, pp. 1265-1296

205 *Gynecologic Lesions and Suicidal Mania. (Die gynäkologischen Läsionen bei der Manie des Selbstmordes und die gynäkologische Prophylaxe gegen den Selbstmord beim Weibe.) L. M. Bossi.
206 *Pregnancy and Delivery in Tabes Dorsalis. Jakub.
207 Premonitory Symptoms of Thrombosis and Embolism. H. Michaelis.

205. **Gynecologic Prophylaxis of Suicidal Mania.**—Bossi's experience with the cure of a tendency to melancholia and mania by correction of abnormal conditions in the genitalia was summarized in THE JOURNAL, September 30, page 1173, abstract 165. He urges here the especial importance of the task of gynecologists in a sound prophylaxis against suicide.

206. **Pregnancy in Tabetic Women.**—Jakub reports the course of pregnancy and delivery in a woman of 36 infected with syphilis at 28 and with signs of tabes dorsalis during the last seven years. This experience confirms the privilege of tabetics over normal women, in that delivery proceeds rapidly and entirely painlessly. The entire childbirth is analogous to what is observed in animals after artificial destruction of the spinal cord; it confirms anew the admirable autonomous nervous apparatus of the uterus which enables it to carry the fetus to term and expel it at the proper time automatically.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 31, XXXII, No. 105, pp. 1107-1114

208 *Abdomen Retraction with Gastric Cancer Free from Metastasis. (Del segno di Tansini per la diagnosi di metastasi intestinale nel cancro del pilorо.) S. d'Este.

September 3, No. 106, pp. 1115-1130

209 Perforating Ulcer of the Foot. (Sul mal perforante plantare.) G. Tomaselli.

September 5, No. 107, pp. 1131-1138

210 Carbolized Glycerin in Local Treatment of Erysipelas. M. Lodi.

September 7, No. 108, pp. 1139-1146

211 Banti's Disease. F. Piria.

208. **Depression of the Abdomen with Cancer of the Pylorus and Bulging When There is Metastasis.**—Este reports a third case in which Tansini's sign was present and threw light on the condition. In all his experience with cancer at the pylorus or cicatricial stenosis he always found the abdomen drawn in except in those cases in which operation revealed cancerous nodules at some point in the intestines.

Riforma Medica, Naples

September 4, XXVII, No. 36, pp. 981-1008

212 Intratracheal Insufflation According to Meltzer. R. Falcone.
213 Mononucleosis with Gastric Cancer. G. Costantini.
214 Local Eosinophilia in Rabbit Coccidiosis. P. Ballette.
215 Wassermann Reaction Negative in Pellagra. C. Vallardi.

Hospitalstidende, Copenhagen

August 2, LIV, No. 31, pp. 857-880

216 *The Wassermann Reaction and Resistance to Heat of Antibodies Involved. (Wassermann's Reaktion betragtet som et ikke isoleret Fænomen.) O. Thomsen and H. Boas.

August 9, No. 32, pp. 881-912

217 Case of Male Pseudohermaphrodism. J. Mourier.
218 *Treatment of Syphilis of Heart and Vessels. (Behandling af de syfilitiske Hjerte- og Karsygdomme.) A. Øigaard. Commenced in No. 30.

August 24, No. 34, pp. 939-968

219 Prolapse of the Placenta. I. P. Hartman. Commenced in No. 33.
220 *Systemic Intoxication Originating in Uterine Fibromyomas. J. Kaarsberg

August 30, No. 35, pp. 969-1000

221 Ammonia Content in Urine and Its Relation to the Gastric Secretion. (Om Ammoniakmængden i Urinen og dens Forhold til Ventrikelsekretionen.) S. A. Gammeltoft.
222 Anilin Stains in Tests for Bile Pigments in the Urine. (Om Anvendeligheden af Anilinfarver som Reagens paa Galdefarvestof i Urinen.) O. V. Petersen.

216. **Resistance to Heat of Antibodies Giving the Wassermann Reaction.**—Thomsen and Boas call attention to the fact that the Wassermann reaction occurs regularly with serum from non-syphilitic patients, with cancer, nephritis, scarlet fever, leprosy and tuberculosis, if the serum is not heated, but the syphilitic serum is the only one that gives the reaction after the serum has been heated to 56 C. for half an hour, which is a necessary element in the true Wassermann technic. The heating sifts out all but the true syphilitic cases, the syphilitic serum being the only thermoresisting one. This thermoresisting property is particularly pronounced in inherited syphilis; in the first phase of syphilis the thermoresistance is slight, probably no higher than with cancer, nephritis, etc. The question now is whether this thermoresistance is the property of the antibodies generated or of the medium containing them, but the research reported seems to have established beyond question that these antibodies which give the Wassermann reaction occur regularly in various diseases, while their resistance to application of heat varies within a wide range.

218. **Syphilitic Cardiovascular Disturbance.**—Øigaard reviews his experience with twenty patients of this category, expatiating particularly on the frequently indispensable aid to be obtained from the Wassermann reaction in diagnosis of syphilis of the heart and vessels. There are three principal types of syphilitic affections of the cardiovascular system, aneurysm at the arch of the aorta, aortic insufficiency and syphilitic aortitis. The latter can generally be diagnosed from the clinical picture alone. The Wassermann reaction in all these types is usually very pronounced even when the infection is of twenty to forty years' standing. Treatment was successful only with mercury in his twenty cases, and the results were often surprisingly good, far better than are obtainable by any means with heart disease of other origin. He never witnessed any benefit from iodid in these syphilitic heart and vascular affections. He advises keeping up the mercury until the subjective symptoms have subsided and the Wassermann reaction has become negative after suspension of the treatment for at least three weeks. After the Wassermann reaction has once become negative under treatment, it can no longer be utilized as a guide in treatment—the flaring up of symptoms anew requires renewed specific treatment, regardless of the Wassermann findings. One of his patients with albuminuria (syphilitic nephritis) and intense Wassermann reaction was entirely cured by a three months' course of mercury and iodid. The details of his twenty cases are given in full.

220. **Intoxication from Fibromyoma in the Uterus.**—Kaarsberg has had two patients with fibromyomas in the uterus decaying without suppuration but absorption of necrotic matters caused fever. The growth was seen to increase rapidly in size during two or three weeks, which clinched the necessity for its removal. There were no other symptoms but the fever, no pains nor tenderness. In one case the necrosis was evident only on microscopic examination. In a third case a woman of 70 died after a period of fever suggesting typhoid, but necropsy disclosed no cause for the fever except a central patch of necrosis in a large fibromyoma in the uterus. In other cases a latent necrosis may induce a more chronic intoxication; the temperature may be normal or only slightly above, but the pulse is accelerated and the patient feels weak and cachectic. In the course of four or five months considerable anemia may develop, although without appreciable hemorrhages. Kaarsberg's patient was so weak she swooned twice during the examination. There was a blowing sound at the heart but no purulent or fetid vaginal discharge. The temperature ran up very high a few days before death, having previously been normal; the pulse had been 100. The rise in temperature was accompanied by a purulent discharge from the vagina and the uterus was at once removed but the

patient died the next day. Parenchymatous degeneration of the organs was evident, especially of the myocardium. In a fourth case the symptoms and course were exactly the same but the fibromyoma in the uterus was not decaying, no trace of necrosis could be detected even with the microscope. The case demonstrates that a fibromyoma even without necrosis is liable to induce intoxication and degeneration of the myocardium. In a fifth case no operation was attempted and the patient died after four or five months of chronic debility and hemorrhages from a fibromyoma in the uterus. In this case also degeneration of the myocardium was the direct cause of death. This assumption that a uterine fibromyoma —even without necrosis—may induce chronic intoxication is sustained by the way in which such patients improve rapidly in health after removal of the growth. He urges the necessity for keeping an oversight of patients suspected to have these growths and increasing weakness, especially on the part of the heart. The detailed case histories are appended.

Hygiea, Stockholm

August, LXXIII, No. 8, pp. 913-1024

223 *Weight of a Drop. (Om droppvikt.) K. Ahlberg.
224 *Resection of Stomach for Cancer; Operative Mortality and End-Results. J. Waldenström.

223. **Weight of a Drop.**—Ahlberg discusses the inaccuracies that are liable unless the exact weight of the drop of different fluids is known, and he gives a series of tables showing the exact weight in turn of twenty, thirty, forty to eighty drops of a number of common tinctures, extracts, acids, etc., and in another series the number of drops to a gram. The number ranges from twenty to sixty drops to the gram, tincture of digitalis having fifty, fluid extract of ergot thirty, tincture of opium forty, and the 1 to 1,000 epinephrin solution only twenty according to his experience.

224. **Resection of the Stomach for Cancer.**—Waldenström compares the statistics from some leading German, Swiss, American and Swedish clinics, showing that Mikulicz had the highest percentage of survivors for more than three years after resection of the stomach for malignant disease, his figure being 30 per cent., or 39 per cent., if only the last three years of his work are included. Waldenström gives the details of the fourteen cases in which the patients have been free from recurrence for more than three years since the operation done at the Serafimer Hospital at Stockholm, out of a total of ninety-three patients thus operated on between 1888 and 1907. He urges efforts to convince patients of the advisability of a harmless exploratory laparotomy when there are symptoms of chronic dyspepsia and deficient gastric secretion while the patients are losing weight. Cooperation between the internist and the surgeon seems to be the only way to realize further progress in treatment of gastric cancer. In the successful cases reported from the Serafimer, the first symptoms had been noticed from two months to eight years before operative treatment was applied.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By Robert Bing, Privat-Docent for Neurology in the University of Basle. Translated by E. S. Arnold, B.A., M.B., B.Ch. (Oxon). Revised by David I. Wolfstein. Cloth. Price, $2.50. Pp. 215, with 70 illustrations. New York: Rebman Company, 1911.

THE MECHANISM OF LIFE. By Dr. Stéphane Leduc, Professor à l'Ecole de Médicine de Nantes. Translated by W. Deane Butcher, Formerly President of the Röntgen Society, and of the Electro-Therapeutical Section of the Royal Society of Medicine. Cloth. Price, $2. Pp. 172, with 64 illustrations. New York: Rebman Company, 1911.

NOSTRUMS AND QUACKERY. Articles on the Nostrum Evil and Quackery from THE JOURNAL of The American Medical Association. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, $1. Pp. 509, with 220 illustrations. Chicago: American Medical Association Press, 1911.

THE BLOOD AND ITS THIRD ANATOMICAL ELEMENT. Application of the microzymian theory of the living organization to the study of the anatomical and chemical constitution of the blood and to that of the anatomical and physiologic causes of the phenomena of its coagulation and of its other spontaneous changes. By A. Béchamp, Formerly Professor in the Medical Faculty of Montpellier (France). Translated from the French by Montague R. Leverson, M.D., of the Baltimore Medical School and M.A. and Ph.D. of the University of Gottingen. Cloth. Price, $1.50. Pp. 440. Philadelphia: Boericke & Tafel, 1911.

PENNSYLVANIA HOSPITAL. Annual Report of the Department for the Insane for the Year Ending April 20, 1911. Presented to the One Hundred and Sixtieth Annual Meeting of the Contributors to the Pennsylvania Hospital. Paper. Pp. 38, with illustrations. Philadelphia, 1911.

TRANSACTIONS OF THE ROYAL ACADEMY OF MEDICINE IN IRELAND. Vol. XXIX. Edited by J. Alfred Scott, M.A., M.D., F.R.C.S.I., General Secretary; Professor of Physiology Royal College of Surgeons in Ireland. Cloth. Pp. 560. Dublin: John Falconer, 53 Upper Sackville Street, 1911.

REFRACTION AND VISUAL ACUITY. By Kenneth Scott, M.D., C.M., F.R.C.S., Consulting Ophthalmic Surgeon to St. Mary's Hospital for Women and Children, London. Cloth. Price, $1.75. Pp. 191, with 16 Illustrations. New York: Rebman Company, 1911.

CESARE LOMBROSO, A MODERN MAN OF SCIENCE. By Hans Kurella, M.D., Author of Natural History of the Criminal. Translated from the German by M. Eden Paul, M.D. Cloth. Price, $1.50. Pp. 194. New York: Rebman Company, 1911.

PRINCIPLES OF ANATOMY. The Abdomen Proper Described and Illustrated by Text and Plates. By William Cuthbert Morton, M.A., M.D. (Edin.). Cloth. Price, $12. Pp. 174. New York: Rebman Company, 1911.

HERSELF. Talks with Women Concerning Themselves. By E. B. Lowry, M.D., Author of Confidences, etc. Cloth. Price, $1. Pp. 221. Chicago: Forbes & Co., 1911.

LOVE AND LETTERS. By Frederic Rowland Marvin. Cloth. Price, $1.50 net. Pp. 252. Boston: Sherman, French & Co., 1911.

New Patents

Patents of Interest to Physicians

995692 Bed-pan cushion. Marie A. L. Barrelle, North Reading, Mass.
995958 Ozonator. Louis Goldberg, Indianapolis, Ind.
995814 Truss. Peter S. Haehn, Youngsville, Pa.
995600 Surgical appliance. Jonas E. Heyser, Philadelphia.
995479 Sanitary cuspidor holder. Peter H. Noonan, Noonan, N. Dak.
995709 Sanitary pocket cuspidor. St. John O'Sullivan, San Diego, Cal.
995817 Artificial rawhide leg. William H. Vanorman, Auburn, N. Y.
995510 Producing transparent camphor in shaped pieces. Otto R. D. Witt, Hamburg, Germany.
994824 Disinfecting apparatus. August H. Davids, Hamburg, Germany.
994918 Sputum cup. John Greenwood, Macksville, Kan.
994922 Composition of matter. Edouard Heckel, Marseilles, France.
995157 Machine for dispensing straws. Marcus and J. A. Korman, Washington, D. C.
995407 Ice bag. Walter S. Leyens, Monroe, La.
994869 Inhaling device. Ignatz Pilocz, Budapest, Austria-Hungary.
994957 Magnetic vibrator. Frank V. Smith, Floriston, Cal.
994884 Surgical instrument. William W. Stewart, Columbus, Ga.
994553 Emulsifier. James C. Alexander, Roseburg, Ore.
994437 Preparing camphor. Ossian Aschan, Helsingfors, Russia.
994300 Electric vibrator. Herman I. Blattle and P. Newman, Providence, R. I.
994306 Suspensory drawers. James A. Evans, Fort Worth, Texas.
994584 Cushion crutch. Hobart H. Flynn, Bellevue, Wash.
994270 Massage apparatus. John P. O'Brien and H. Stoddard Philadelphia.
994190 Prostatic syringe. Nicola Pernice, Atlantic City, N. J.
994192 Pasteurizer. Bryan D. Pinkney, Cleveland.
994194 Crutch and cane tip. Philip W. Pratt, Boston.
994660 Breeding microbes. Otto Schmidt, Cologne, Germany.
994482 Clinical thermometer. Ralph F. Schneider, New York
994483 Veterinary surgeon's float. John Sklar, Brooklyn,
994619 Artificial eyelash. Anna Taylor, Ottawa, Ontario, Canada.
994287 Water bag. Edwin B. Thorning, Alameda, Cal.
994294 Ozone generator. Eugene P. Weillard, Los Angeles, Cal.
993945 Medical appliance. John W. Ballard, Indianapolis, Ind.
993365 Disinfecting apparatus. George Harker, Petersham, near Sydney, New South Wales.
993868 Dehydrating nitric-acid and other vapors. Harry Pauling, Gelsenkirchen, Germany.
993848 Edge-rolling device for hot-water bottles. Alexander D. Lamont, Providence, R. I.
992886 Capsule filler. Henry Laval, Evansville, Ind.
992980 Ozone-producing apparatus. Octave Patin, Paris, France.
993124 Breast pump. Charles A. Tatum, New York.
993125 Kessler apparatus for concentrating suphuric acid. Jules Teisset and J. Prat, Paris, France.
993331 Manufacture of formates. Arnold Wiens, Bitterfeld, Germany.
992837 Membrane pump. Friedrich W. Winterhoff, Dusseldorf, Germany.
993011 Manufacturing dextrin. Heinrich Walkan, Budapest, Austria-Hungary.
11434 Syringe or similar article. Peter G. MacGregor, New York.